I.P.E.
ISSUE No. 1

OIL AND GAS JOURNAL

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April 1, 1948

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MAY 13, 1948

XUM

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of Measurement and Control

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No. 00 Gas Meter for domestic service

No. 0 Gas Meter for domestic service

No. 4½ Large Capacity Gas Meter

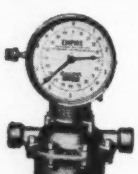
No. 4 Large Capacity Gas Meter

Tin Gas Meter for domestic service

Gas Appliance Regulator

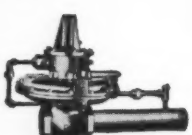
Integrator for mechanically calculating orifice meter charts

Rotocycle Tank Truck Meter



Oscillating Piston Refinery Meter

High Pressure Gas Distribution Regulator



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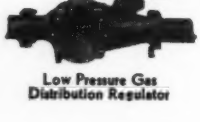
Gas Service Regulator

Orifice Meter Gauge for gases and liquids

Reciprocating Piston Service Station Meter

Rotocycle Pipe Line Meter

Oil Field Meter and Sampler



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211 S. CHEYENNE AVE., TULSA 1, OKLAHOMA

FOUNDED IN 1910 BY PATRICK C. BOYLE

Subscription rate to the petroleum industry, United States and foreign, 1 year, $3.00. Single copies, 20 cents. Back copies, when over a year old, 50 cents. Note: Payments from outside the U.S.A. may be in the form of an international money order or check on a U.S.A. bank. Entered as second-class mail matter at Tulsa, Okla., under Act of March 3, 1879.

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Vol. 47, No. 2 May 13, 1948

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XUM

WITH A

BAKER *Triplex* CEMENTING SHOE...

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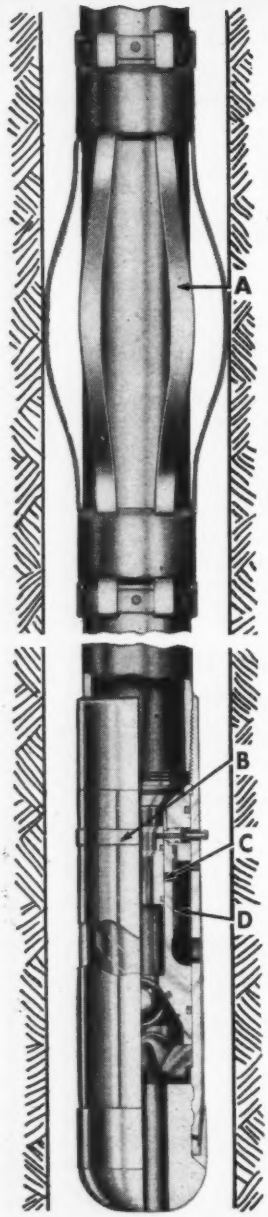

A Baker Casing Centralizers (Product No. 910) are installed on, and above, the shoe joint to center the casing and provide a uniform annulus to receive the cement slurry.

B A hold-down strap (secured by shear screws) retains the Baker Metal Petal Basket close against the shoe or collar while running-in the casing and conditioning the hole.

C Cementing ports are covered by the Tripping Valve until cementing is commenced.

D A fabric-reinforced, resilient rubber, sleeve-type, back-pressure valve opens readily (see dotted white line) to permit passage of the cement slurry into the annulus above, but closes instantly to prevent any return flow of the slurry.

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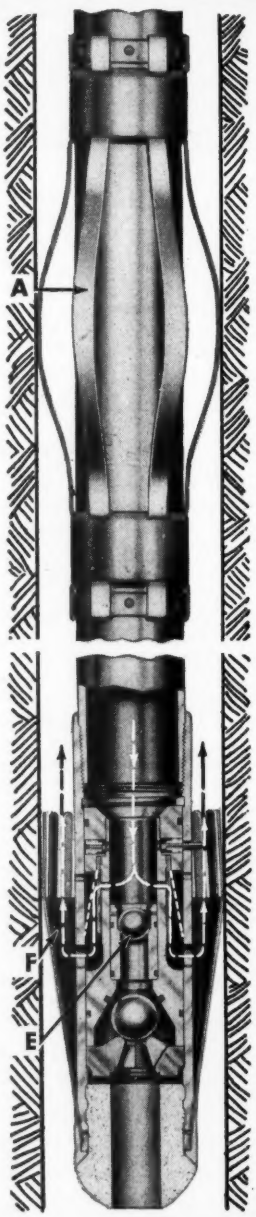
Only readily drillable materials are used for all internal parts; and two one-half inch set screws hold the inner assembly stationary to facilitate drilling out.



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BAKER *Triplex* CEMENTING SHOE

XUM

THE OIL AND GAS JOURNAL

Welcome to I.P.E.

SATURDAY morning at Tulsa, the International Petroleum Exposition will open the gates to what is accurately described as the world's largest industrial show.

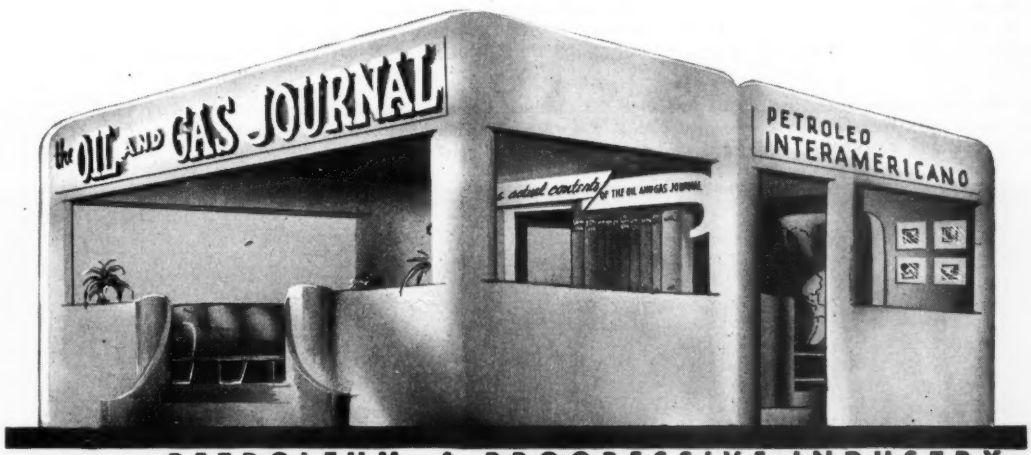
Several hundred exhibitors displaying major products and services have invited operators throughout the world to attend this silver anniversary of an exposition which from time to time has reflected the oil industry's progress in operating equipment and techniques.

While the last previous exposition was being held in 1940 the Germans were moving across western Europe ending at Dunkirk—a low point in all history for free people. Later developments demonstrated that the petroleum equipment on display at that time together with the "know how" of thousands of oil operators played a major part in reversing the early war trends with victory for the Allies based on oil.

This year's show reflects another era in oil—new materials and equipment and new practices all adding up to greater responsibilities in a postwar world more dependent on petroleum than ever before.

In order that operators may see and evaluate in a few days what would require weeks to visit in the fields and plants, manufacturers, suppliers, and service organizations have assembled full-scale exhibits representing investments totaling many millions of dollars extending from exploration through drilling, production, transportation, refining, natural-gasoline manufacture, and distribution. Much of the oil country has been brought together within the space of a few acres.

This issue is a complete guide to visitors and provides a descriptive report of the exposition features for those unable to attend. The centrally located building of the Journal and Petroleo Interamericano and its several facilities were designed to serve visitors and exhibitors. To the entire industry we extend a most cordial welcome.



PETROLEUM—A PROGRESSIVE INDUSTRY

Unitization, Limit to Intrusion of Government Urged Before Compact

by C. O. Willson

CHICAGO.—Recognition of the expanding federal encroachment in petroleum activities and the need for the encouragement of unitization, with particular reference to secondary-recovery operations, were outstanding at the quarterly meeting of the Interstate Oil Compact Commission held at the La Salle hotel, May 5-7.

The governors of 3 of the 21 oil states which are now members of the compact commission and other speakers discussed recent court decisions, the attitude of certain Washington agencies, and the proposed new legislation as pointing to the extension of federal oil controls, a threat to the state conservation bodies and the interstate compact and to the continuance of the oil business as a privately owned competitive enterprise.

Governor Beauford H. Jester, chairman of the commission, sounded the keynote of the quarterly meeting by outlining the following steps as needed to assure that the petroleum industry can supply the rapidly increasing demands:

"1. Allocate steel to the oil industry in order that (a) wildcatting can discover new oil pools, (b) permit the drilling of inside wells and (c) proceeding with secondary recovery projects.

"2. Provide steel to enable state regulatory bodies to curtail large gas wastage now accompanying the production of oil, and to convert gas wastage to liquid hydrocarbons, and have the federal Government do likewise on federal lands.

"3. Affirm the ownership of the states to their tidelands and develop this area of potential prolific production by private enterprise under state regulation.

"4. Stop the conversion from coal to oil for energy and heating until adequate petroleum operations catch up with the demand for petroleum and petroleum products.

"5. Utilize petroleum from the foreign concessions of our oil industry so as to supplement but not adversely affect the marketing of oil produced by the industry in the United States."

The Texas governor in a well-received address discussed the trend toward nationalization throughout the entire world and pointed to its failures when compared to the achievements of the oil business in this country.

"Let us see nationalization in its true light," the commission chairman said. "It is not a panacea or cure-all. It is a pandemic—an all-spreading political disease that strikes at and withers the roots of democracy and free private enterprise."

B. A. Hardey, chairman of the Louisiana State Minerals Board and past president of the Independent Petroleum Association of America outlined several developments at Washington in which agencies and lawmakers seek to extend federal control over the petroleum industry.

"We must not underestimate the seriousness of the situation," Hardey declared. "Every persuasive argument that can be summoned is being used to further the impression that problems of petroleum production and distribution cannot possibly be met unless a federal board or bureau takes the matter in hand."

Hiram M. Dow, official representative of the commission from New Mexico and immediate past chairman, discussed in detail the progress of the petroleum industry during the 13 years in which the Interstate Oil Compact Commission has functioned. Explaining that the compact did not take credit for all the operating achievements of the oil industry during this period, Dow expressed the belief that "freedom from unnecessary restrictions" which has been fostered by the commission was largely responsible for the many noteworthy achievements of the petroleum industry including the advancement of conservation.

Gov. Dwight H. Green of Illinois, who made the address of welcome, and Gov. Roy J. Turner of Oklahoma, who served as chairman of the resolutions committee, also condemned the proposals to extend federal controls in the oil business and called for still greater accomplishment on the part of the state regulatory bodies and the commission as a stop to this trend.

Committee Reports

Particular interest was apparent in the reports of the several committees which carry on a large part of the work of the commission. Special attention was given to the recommendations of the secondary-recovery committee which inaugurated a program last year of fostering the recovery of oil reserves now estimated to total approximately 100 billion barrels. The commission recently employed Albert E. Sweeney, Jr., as a member of the staff at the Oklahoma City headquarters to serve as director of this work. The committee is now carrying on an exhaustive survey of secondary areas and it is anticipated that the results of this survey can be made known to the petroleum industry this year. The committee urged that the commission provide funds for the continuance of this phase of this activity another year.

This committee in its report also strongly urged the passing of state legislation where needed which will

Attending the quarterly meeting of the Interstate Oil Compact Commission in Chicago were, left to right: Carrol D. Fentress, Oil and Gas Division of the Department of the Interior; Don R. Knowlton, Knowlton Engineering Co., Oklahoma City; H. M. McClure, independent operator, Alma, Mich.; Gov. Beauford H. Jester of Texas, chairman of the Compact, and Gov. Dwight H. Green of Illinois

assist operators in the voluntary pooling and unitization of secondary recovery, repressuring, pressure maintenance, and gas cycling operations. In the absence of unitization the regulatory practices committee urged that statewide gas-oil ratio limits be established following a study of each field by state regulatory bodies. In this connection Jack K. Baumel, chief petroleum engineer of the Texas Railroad Commission, and R. W. French, vice president of Sohio Petroleum Co., presented a study on "Gas-Oil Ratio Control in Proration." E. Leland Richardson, official representative from Louisiana, and D. R. Knowlton, Knowlton Engineering Co., Oklahoma City, each presented papers to the regulatory practices committee urging the expansion of unitization.

H. C. Fowler, supervising engineer, petroleum experiment station, U. S. Bureau of Mines, Bartlesville, presented a paper explaining the secondary-recovery research work to which the bureau has devoted part of its activities for many years and which will be expanded in accordance with the provision of Public Law 443 (Synthetic Liquid Fuels Extension Act), which provides a fund of $1,000,000 to carry on this work. Copies of Fowler's paper are available from the compact headquarters, State Capitol building, Oklahoma City, and also the bureau headquarters in Bartlesville, Okla.

The commission adopted a resolution urging Congress to adopt pending legislation which will make "it crystal clear that jurisdiction over the production and gathering of natural gas is a state rather than a federal regulatory function."

L. S. Wescoat, president of Pure Oil Co. and Frank O. Prior, vice president of Standard Oil Co. (Ind.) were hosts to the governors attending the meeting May 7 and the Illinois Oil and Gas Association was host at a reception and dinner to the members and guests of the compact on the same date.

Public Relations

Conger Reynolds, director of public relations for Standard Oil Co. (Ind.) and a member of the operating committee of the petroleum industry's public-relations organization, explained the accomplishments of the program over the past 18 months and the plans for the future. He also was moderator of a panel discussion at a luncheon given by the commission in which the work of the compact in public-relations matters was explained to the membership and guests, which included representatives of the daily press in Chicago and national magazines with offices in Chicago. Members of the panel were Hiram M. Dow; Joe Arnold, Pure Oil Co.; Paul S. Hedrick, Tulsa Daily World; and C. O. Willson, The Oil and Gas Journal.

Need for Increased U. S. Output, Imports Cited by Compact Body

CHICAGO.—Domestic supplies and imports of petroleum must be increased substantially over present levels starting immediately if the oil industry is to take care of the assured enlarged demands over the next year, Richard J. Gonzales, chief economist of the Humble Oil & Refining Co., explained to members of the Interstate Oil Compact Commission at their quarterly meeting held here May 5-7.

Gonzales' report, which is summarized in the accompanying table, for the year starting April 1 was made in his capacity as chairman of the compact's economic advisory committee.

The committee's estimates are based on an expected average daily demand for the year ending March 31, 1949, of 6,400,000 bbl. daily taking into consideration exports as estimated by the Bureau of Mines. In regard to domestic consumption the report assumes the following developments:

1. A moderate increase in new fuel consuming equipment, with a substantially lower rate of additions than in 1947.
2. Normal weather during the coming winter.
3. Continuation of high industrial activity.
4. Continuation of military demands at present levels.

The total demand for crude oil and products are summarized as follows (thousands of barrels daily):

	Year ending		Change	
	3/31/48	3/31/49	Quantity	Per cent
Gasoline	2,333	2,480	147	6.3
Kerosine	314	345	31	9.9
Distillate fuel oils	946	1,070	124	13.1
Residual fuel oils	1,455	1,480	25	1.7
Other products	958	1,015	57	6.0
Total	6,006	6,390	384	6.4
Domestic demand	5,583	5,997	414	7.4
Export demand	423	393	—30	—7.1

Explaining that winter demands are becoming progressively greater than the summer demands for petroleum, the report estimates that requirements for next winter will average about 600,000 bbl. daily greater than this summer.

H. B. Fell, vice chairman of the supply and demand committee of the Independent Petroleum Association of America, presented the April quarterly report of that committee which projected operations through the second and third quarters of this year. For the periods under comparison the two reports were in substantial agreement.

UNITED STATES PETROLEUM SITUATION FOR 12 MONTHS ENDED MARCH 31, 1949
(Thousand barrels daily)

		1948 projection					1949
	Year 1947	First quarter	Second quarter	Third quarter	Fourth quarter	Year	First quarter
Demand:							
Gasoline	2,308	2,105	2,560	2,655	2,480	2,450	2,230
Kerosine	301	435	265	240	410	337	460
Distillate fuel oils	899	1,320	820	765	1,205	1,028	1,495
Residual fuel oils	1,450	1,580	1,400	1,360	1,560	1,475	1,600
Others	942	900	995	1,110	995	1,000	950
Total demand	5,900	6,340	6,040	6,130	6,650	6,290	6,735
Domestic demand	5,449	6,033	5,634	5,685	6,280	5,907	6,385
Export	451	307	406	445	370	383	350
Supply:†							
Required crude prod.	5,085	5,335	5,475	5,532	5,570	5,478	5,625
Natural gas liquids	364	395	400	410	415	405	420
Imports	437	475	475	500	520	492	520
Total required supply	5,886	6,205	6,350	6,442	6,505	6,375	6,565
Stock changes:							
4 major products*	—27	—112	+241	+332	—165	+74	—270
Refinable crude oil	+ 1	— 1	— 31	0	+ 57	+ 6	+ 28
Others	+12	— 22	+100	— 20	— 37	+ 5	+ 18
All oils	—14	—135	+310	+312	—145	+85	—170
Closing stocks (million barrels):							
4 major products*	213.9	203.7	225.6	256.1	241.0	241.0	216.6
Refinable crude oil	224.9	224.8	221.9	221.9	227.1	227.1	234.5
Others	62.0	60.0	69.1	67.3	63.9	63.9	65.6
All oils	500.8	488.5	516.6	545.3	532.0	532.0	516.7
Crude runs to stills	5,075	5,361	5,525	5,575	5,610	5,518	5,630

*Includes California heavy crude oil. †Required to meet demand and stock changes (not a forecast of availability).

West Coast A. P. I. Members Study Problems of Production, Drilling

by Herndon David

LOS ANGELES.—"The oil industry is charged with a terrific obligation to the people, both in times of war and in times of peace. It must find and produce oil in quantities sufficient to meet all reasonable demands, and must sell its products at a fair price to the consumer and yet sufficient to provide the incentive that will result in the search for, development, and maintenance of adequate reserves." So stated A. C. Mattei, president of Honolulu Oil Corp., speaking before approximately 1,200 oil men and engineers at the Biltmore Hotel here on May 6 and 7 for the twenty-first annual spring meeting, Division of Production, of the American Petroleum Institute.

Failure of the industry to discharge its obligation to the people, according to Mattei, would give rise to criticism which in turn might result in burdensome taxes and government controls which would thwart its capability to furnish oil in adequate quantities.

Muds Discussed

Divided into five sessions, the program of the meeting offered 12 outstanding technical papers and 2 papers of general interest, all of which were concerned with the advances made during the past year toward the solution of the problems outlined by Mattei. During the two morning sessions, six technical papers on drilling practices were heard. In the first of these, "Measurement of Mud Viscosities at High Temperatures," V. N. Bednarske, of The Texas Co., explained that the abnormal behavior of drilling muds in wells drilling through high-temperature formations and the general tendency toward higher temperature with increased depth has made it desirable during recent months to study the effect of high temperatures on the viscosity of muds. He described the structural details and method of operation of a torsional, variable speed, laboratory viscosimeter for the measurement of mud viscosities up to and including 200° F. at atmospheric pressure.

"The results obtained with lined shaped charges in penetrating steel, concrete, natural rock formations, and the like, have placed a new tool at the disposal of the petroleum industry—a tool capable of overcoming many heretofore insurmountable obstacles," Robert Harcus, of Byron Jackson Co., told the same group. Harcus reviewed the various applications of the jet process of well servicing and described the results of experiments in casing severing and perforating in open-hole, and discussed the effect of the jet on a producing sand.

W. C. Harrington, of Standard Oil Co. of California, and M. C. Eastman, of the U. S. Navy, described the use and restrictions of diamond coring equipment in California. Figures comparing the cost and core recovery by diamond and by rock head coring were presented.

Reports on Equipment

At the second session on Drilling Practices, N. A. D'Arcy, Consulting Mechanical Engineer, described the "Application of Hydraulic and Pneumatic Devices to Drilling Equipment." Hylraulic and pneumatic devices have found widespread use in the construction of drilling equipment from the small single-engine power rigs up to the largest power steam rigs, he explained, and the use of these devices is well established and based on real needs. Reasons for adapting these devices to drilling equipment, he said, are safety, elimination of fatigue, accomplishment of tasks impossible by manual means, reduction of number of men required to perform a given operation and the realization of greater economy in original cost and maintenance.

W. F. Bates and J. N. Gregory, of Shell Oil Co., Inc., listed the important requirements of portable drilling units and explained the problems confronting the designers of completely mobile drilling equipment.

A. J. Heiser, Brown Drilling Co., then described the "Advancements in Contract Drilling." Progressive trends of contract drilling were illustrated, and it was brought out that the economic situation of the contracting industry demands sound bidding on the part of the contractor and closer cooperation on the part of the oil operator.

The shortage of liquid fuels which has developed in recent months is being used as an excuse for greater federal control of the industry, asserted Paul D. Torrey, consulting engineer, in opening the second session of the convention with his paper, "Application of Secondary Recovery in the United States as Related to Emergency Oil Requirements." However, if the industry can demonstrate positively its ability to supply both ordinary and emergency demands, he said, much of the argument for federal control will be eliminated.

Hallan N. Marsh, speaking on the "Progress of A.P.I. Standards," said use of A.P.I. specifications is optional, but standards tend to accomplish interchangeability, economy, utility and understanding.

Featured guest speaker of the spring meeting was Harold F. Sheets, former chairman of the board of the Socony-Vacuum Oil Co., Inc. At the evening banquet session held in the Biltmore Bowl, Sheets told "The Story of Middle East Oil." "Our well-being and prosperity in peace, and our security in war, should war come, demand that exploration and development of the Middle East be carried through," he stated.

During this evening session names of the new officers of the Pacific Coast District who will serve during the coming year were announced. They are: Lot Bowen, Western Gulf Oil Co., chairman; H. O. Woodruff, The Texas Co., vice chairman for the Los Angeles Basin District; D. G. Kingman, General Petroleum Corp., vice chairman for the San Joaquin Valley District; T. H. Rodgers, Chanslor-Canfield Midway Oil Co., vice chairman for the Coastal District; Carl Townsend, Standard Oil Co. of California, vice chairman for the Coalinga-Kettleman District; W. G. Corey, Lacy Oil Tool Co., treasurer, and Mrs. Elsie M. Edmiston, A.P.I. secretary.

Five Production Papers

At the concluding session of the meeting, devoted to production practice and technology, five papers were presented. Kenneth T. McCamman of the Shell Oil Co., Inc., discussed rod fall, the strengths of sucker rods, tubing pumping units, and pumps as they affect the amount of fluid that can be pumped from any depth. Curves showing quantitatively those limitations of the sucker rod pumping system were presented and a few examples of actual pumping performance given.

M. G. Arthur, Union Oil Co. of California, presented a brief review of the factors affecting recovery by gas injection into so-called black-oil reservoirs and a detailed discussion of the economies of cycling of condensate reservoirs.

"The Prediction of Oil Recovery by Water Flood," presented by Herman Dykstra and R. L. Parsons of the California Research Corp., correlated the results of a series of water flooding tests in the laboratory and discussed the implication of the results.

In the concluding paper, "A Subsurface Flow Rate Indicator and Its Application," F. M. Carlisle, of International Cementers, Inc., described equipment to determine subsurface flow rates and discussed its application to field problems.

this week

TRENDS—Crude production again sets new record with average daily output of 5,439,195 bbl. during week ended May 8, compared with previous record of 5,430,985 bbl. set 2 weeks before. . . . Output during last 4 weeks averages 5,429,000 bbl. daily, compared with 4,951,000 during same period in 1947, a gain of 9.7 per cent. . . . ¶Runs to stills average 5,544,000 bbl. daily during 4-week period ended May 1, 17.7 per cent gain over same period a year ago. . . . ¶Production of gasoline during same period averages 2,370,000 bbl. daily, up 16.3 per cent over last year. . . . Kerosine output averages 341,000, up 16.8 per cent. . . . Distillate averages 1,010,000, up 32 per cent, and residual production averages 1,291,000 bbl., up 12.9 per cent. . . . ¶Stocks of four major products during same 4-week period show net increase of 6,749,000 bbl. . . . Gasoline stocks drop 1,629,000 bbl., while kerosine stocks rise 2,464,000, distillate gains 3,044,000, and residual climbs 2,870,000 bbl. . . .

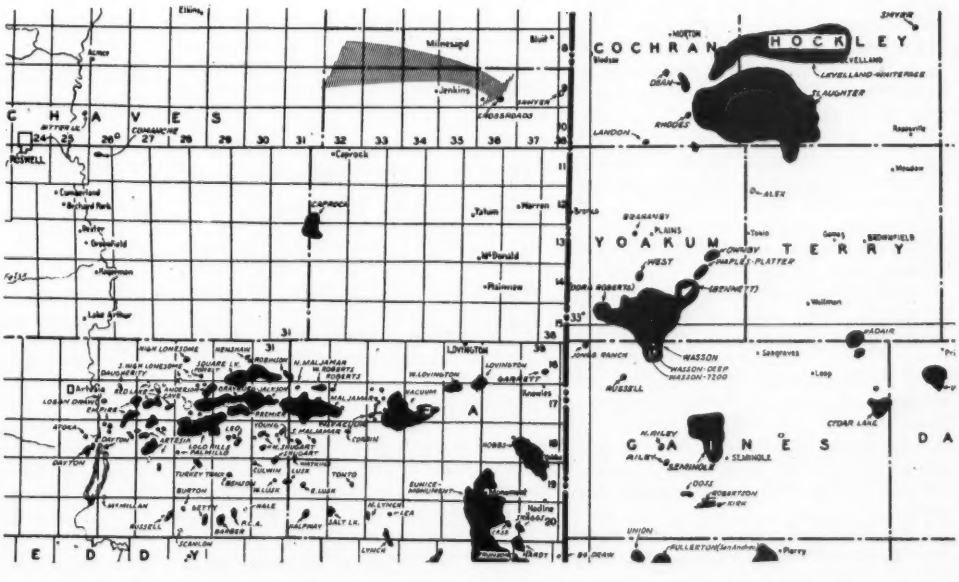
GOVERNMENT—Armed services subcommittee says rationing will be necessary in 6 months if industry agreement shows signs of failing. . . . National defense is in "precarious position" with respect to petroleum House group says. . . . Committee recommends: government allocation of steel if industry's allocation system falters. . . . Definite stock-piling program by military. . . . Thorough exploration of government lands. . . . Removal of all barriers to imports. . . .

COMPACT—Dangers of governmental encroachment in oil-industry activities cited at spring meeting of Interstate Oil Compact Commission. . . . ¶New state legislation urged to facilitate unitization, particularly in secondary-recovery, repressuring, pressure maintenance, and gas cycling operations. . . . ¶Economics advisory committee says imports must be increased and domestic output stepped up immediately if industry is to meet increasing demands. . . . Estimates that requirements next winter will average 600,000 bbl. daily more than this summer. . . .

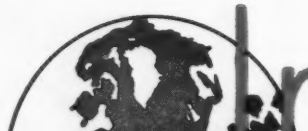
REFINING—Lion Oil Co. will begin $3,500,000 construction program next month on its anhydrous ammonia chemical plant at El Dorado, Ark. . . . ¶Corpus Christi fire-fighting organization is established by seven refining and oil-transportation companies there. . . .

INTERNATIONAL—Peru creates new oil agency in attempt to entice foreign capital. . . . Little success expected by observers until pending oil law is passed. . . . ¶Bill designed to bar further exports of pipe for trans-Arabian line is introduced in Congress by Sen. Kenneth S. Wherry. . . . ¶Early completion expected for 8-in. outlet for new Tucupido production in Venezuela. . . . ¶Cities Service Co. preparing to begin exploratory work in Liberia. . . . ¶U.S.S.R. claims 24 per cent increase in first-quarter production compared with same period last year. . . . Only figures released by Council of Ministers are percentages. . . .

NATURAL GAS—Federal regulations during the 10 years of the Natural Gas Act are largely responsible for difficulties now facing the industry, gas group is told at A.G.A. meeting in Houston. . . . ¶U. S. Supreme Court dismisses gas company's appeal from a decision of the Oklahoma Supreme Court requiring it to take gas ratably from a well. . . . ¶Humble Oil & Refining Co. announces plans to build three natural-gasoline plants and two new gas-injection plants this year. . . .



Map showing location of Mid-Continent Petroleum Corp.'s new strike near Crossroads, in Lea County, New Mexico. The well, the 1-A Sawyer, flowed 3,775 bbl. of 42°-gravity oil per day on initial test from 12,115 ft. Closest production in New Mexico is Caprock pool, 18 miles south and 25 miles west. The well is completed in a pre-Permian formation, about 50 miles northwest of the closest such pay, in Jones Ranch field of Gaines County, Texas. Completion details and data on the well's geology may be found on page 443 of this issue



International

WORLD-WIDE OIL DEVELOPMENTS

Peru Establishes EPF in Weak Move to Entice Foreign Capital

INDICATIVE of the strong desire of Peru's present administration to see more foreign oil capital aid in the development of the country's resources is the creation of a new organization for expressly this purpose.

Empresa Petrolera Fiscal (Federal Petroleum Enterprise) is the name of the organization which has succeeded Establecimientos Petroleros Fiscales (Federal Petroleum Establishment). Empresa will attempt to form mixed companies consisting of Government and private capital.

Well-informed oil sources indicate that Empresa is not likely to be very successful as its existence probably will be questioned, and possibly liquidated, by the Peruvian Congress which is scheduled to reconvene July 28.

The new organization, according to administrative plans, would be capitalized with a maximum of 200,000,000 soles—approximately $28,000,000. Meanwhile, its capital consists only of assets and rights of the defunct Establecimientos Petroleros Fiscales.

Assuming that any foreign oil company should make a contract with Empresa—a highly unlikely assumption, it is pointed out—such a company would deal expressly with this new Peruvian Government agency but probably would not be granted a concession or lease as such.

However, it is significant that Peru's administrative forces have seen a need to encourage the entry of more foreign oil capital and to attempt to break the legislative and political deadlock over the projected new oil law. This is the law drawn up 2 years ago by A. A. Curtice, of Hoover, Curtice & Ruby, international geologists and engineers. In the spring of 1946 the law was approved by Peru's House of Deputies but tabled by the Senate later this year.

Last year Peruvian President Jose Luis Bustamente y Rivero urged Congress to pass this law as well as the proposed Sechura Desert contract with International Petroleum Co., Ltd., for the development of that area. *(The Oil and Gas Journal, September 6, 1947, page 44)*. This contract is still pending.

One report from Peru states that Empresa might discuss a contract with International Petroleum Co. for drilling in Zorritos field, which the Peruvian Government operates but which produces only about 320 bbl. daily. Empresa presumably would pay for this work with Argentine dollars.

Dr. Juan Mariano Velasco, Peru's director of mines and petroleum, may be named president of Empresa.

To operate efficiently, this organization, which has been termed an extra-legal attempt to open up Peru to more intensive oil development, must have more funds. The chances of Congress appropriating these funds, however, are believed rather remote.

If the Peruvian Congress approves the projected oil law, it is considered possible that Peru will be the scene of the greatest oil exploration in all history.

Cities Service Prepares Oil Search in Liberia

In the belief that Liberia, a Negro republic of 40,000 square miles on the west coast of Africa, offers attractive geological possibilities, Cities Service Co. has signed a preliminary contract covering exploratory rights for the entire country.

Andrew Milek, a Cities Service geologist now in Monrovia, the capital, is organizing a geological party. Milek's reconnaissance may result in additional geological parties going into the field in the near future. Reports indicate that no geological work has been done there to date.

Liberia Co., of which former Secretary of State Edward R. Stettinius, Jr., is chairman, will in effect be a partner of Cities Service in this venture. Liberia Co. is interested in developing upwards of 40 industries in that country and consequently has numerous other interests.

During the last war, the U. S. Navy built a $19,000,000 modern port at Monrovia. There is also a modern air field in the country. Much of the area is accessible only by foot and jeep.

Australasian Abandons Test, Will Drill More

Australasian Petroleum Co., Pty., Ltd., has abandoned its New Guinea wildcat at Kariana and is making plans to rig up for three more test wells in the Mandated Territory of New Guinea. The Kariana wildcat was drilled to 12,621 ft.

The new sites are at Upoia and Hohoro on the Vailala River, about 25 miles and 30 miles south, respectively, of Kariana, and at Orio, about 50 miles northwest of Port Moresby. Kariana is located about 180 miles northwest of Port Moresby.

Australasian is 40 per cent owned by Vacuum Oil Co. of Australia, 40 per cent by D'Arcy Exploration Co., and 20 per cent by private Australian interests.

Tucupido Outlet to Be Completed Soon

Construction of an 8-in., 15-mile crude-oil line by Venezuelan Atlantic Refining Co. is expected to be completed in the near future.

Originating near Tucupido in the State of Guarico, Venezuela, the line runs north to connect with the 16-in., 157-mile crude line of S.A. Petrolera Las Mercedes (The Texas Co. and Caracas Petroleum Co.) which runs from Las Mercedes to Pamatacual, near Puerto la Cruz.

Two 20,000-bbl. daily pumping units will be installed. Atlantic's production, however, is currently far under 20,000 bbl. daily. Oil wells have been brought in at Tucupido and capped pending completion of the 15-mile line. More drilling will be carried out in this area.

Wherry Introduces Bill To Bar Tapline Exports

WASHINGTON. — Legislation designed to bar further exports of line pipe for the trans-Arabian pipe line until next March 1 was introduced in Congress this week by Sen. Kenneth S. Wherry of Nebraska in what he said was a "last resort" effort to protect the domestic industry.

In a resolution which Wherry indicated did not represent the sentiments of other members of his small business subcommittee, exports of welded or seamless steel pipe to countries outside the Western Hemisphere would be prohibited except where the administration for economic cooperation certifies they are necessary to carry out the European Recovery Program.

Quarterly exports to Western Hemisphere countries would be limited to the quantities exported to those countries in the corresponding quarter last year, except where the Secretary of State certifies that larger shipments are necessary to carry out our foreign policy, the Secretary of Commerce certifies they are necessary to effectuate the importation of products necessary to our domestic economy, or the Secretary of Defense certifies them as necessary to our national security.

Wherry said the main purpose of the measure is to deprive the Saudi Arabian pipe line of steel, which he holds is more vitally required in this country, by requiring that government officials make public in advance of authorizations their reasons for permitting oil line pipe to move out of the country.

The legislation also would require a showing that pipe authorized for the development of Mexican properties will result in the development of oil from which the United States will derive benefit, it was said.

"It is high time that we remove the distribution of vital steel products helter-skelter around the world from the realm of conjecture and personal discretion by this and that executive agency," Wherry declared.

Soviets Claim 24 Per Cent Gain in Output

Russian oil production in the first quarter of this year was 24 per cent above the corresponding period in 1947, according to a report by the state planning committee of the Council of Ministers of the U.S.S.R.

The rise in oil output was accompanied by increases of 33 per cent in the production of benzine, 24 per cent in kerosine, and 22 per cent in natural gas.

The report stated that the oil industry in the southern and western areas exceeded its production program for the first quarter by 4 per cent and in the eastern area by 6 per cent.

The report, as usual, was confined to a statistical review of Soviet industry, stated only in percentages, and gave no details of the operations of the oil industry.

Sinclair Operations in Ethiopia Still Inactive

Drilling operations of Sinclair Oil Corp. in Ethiopia's Ogaden area have not yet been resumed. The company withdrew its personnel when Somali tribesmen hurled stones and threatened to use guns against company men working there.

R. J. Bender, Sinclair's representative in Addis Ababa, has reminded Emperor Haile Selassie that he promised Sinclair protection should it be needed. Presence of British troops in the disputed Ogaden territory presumably has given rise to current troubles.

Russia Limits Austria to 40 Per Cent of Output

Of Austria's total 1947 crude-oil production, only 337,811 metric tons, approximately 6,700 bbl. daily, or 40 per cent of the country's indigenous output, were made available to Austria by the Russian-controlled officials.

Consequently, Austria had to import 15,401 tons, approximately 300 bbl. daily, to provide for minimum needs, according to a Reuters dispatch from London. Great Britain's ministry of state was given as the source of these figures.

Little Change Planned In Argentina Imports

Argentina's import quotas for petroleum for the quarter ending June 30 have been announced.

All quotas are the same as those for the first quarter except for the fuel-oil, diesel-oil, and gas-oil group, which has been increased from 850,000 to 900,000 tons.

Quotas include: crude oil, 500,000 tons; lubricating oils, 4,000 tons; paraffin, 3,000 tons; gasoline, 300,000 cu. m.; and kerosine, 50,000 cu. m. (A ton is equal to about 7.5 bbl. and a cubic meter about 6.3 bbl.)

Third Well in Syria Nearing Completion

Syria Petroleum Co., Ltd., is nearing completion of its third well in the northern part of that country. No information is available as to the exact depth, but it is reported that production is being sought from the Cretaceous zone.

This company, an affiliate of Iraq Petroleum Co., Ltd., is also drilling 1 Blafuon and in April was down to 6,299 ft. in Judea limestone. Another wildcat, 1 Dola'a was coring in limestone and black shale, at 4,765 ft.

Some wildcat drilling was carried on in Syria before the war but the country so far has no crude-oil production.

9,000 Bbl. Daily to Go To Western Germany

A total of 222,000 tons, 9,000 bbl. daily, of crude oil is scheduled to be imported into the western zones of Germany during the second half of 1948, compared with 120,000 tons, 4,875 bbl. daily, during the first half of this year, according to a Reuters dispatch from Susseldorf.

Imports in the July-December period will include 132,000 tons, 990,000 bbl., of Venezuelan crude and 90,000 tons, 675,000 bbl., from the Middle East.

Lake Annecy in France May Reveal Oil Reserves

Exploratory work in the region of Lake Annecy in the French Alps is now under way, according to a reliable report from Paris. It is believed that crude-oil reserves may be found beneath this lake, which is 45 to 60 ft. deep.

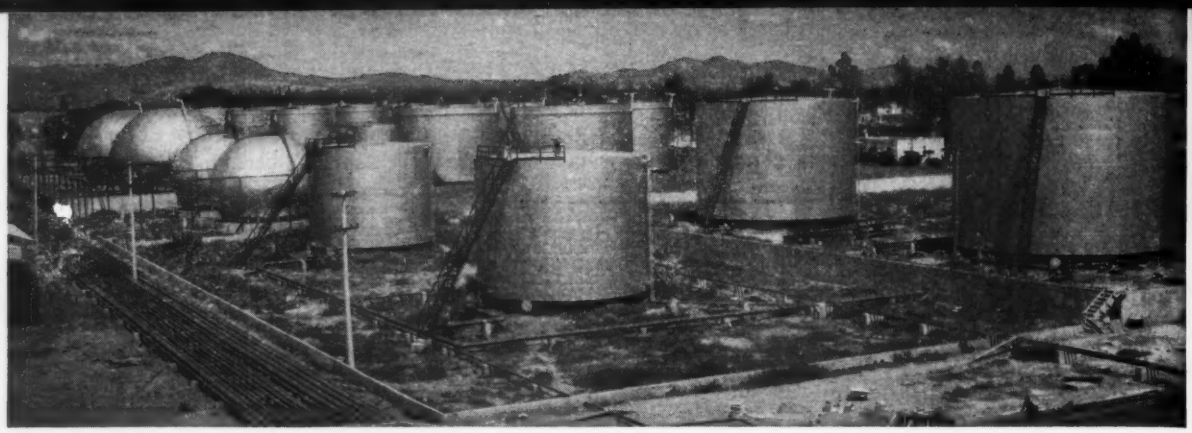
The French Government has been credited with an announcement that oil sand were found in the Lake Annecy region early this month at a depth of 1,100 ft.

Output in Iran Up To 433,600 Bbl. Daily

Iranian crude-oil production of Anglo-Iranian Oil Co., Ltd., for February totaled 1,619,000 tons, or approximately 433,600 bbl. daily. This compares with the February 1947 output of 1,378,000 tons, or approximately 369,000 bbl. daily.

Total crude-oil production in Iran for the first 2 months of this year reached 3,349,000 tons, or approximately 425,700 bbl. daily, compared with 3,018,000 tons, or approximately 398,700 bbl. daily.

These figures were released by B. R. Jackson, Anglo-Iranian's United States representative.



Shown above are storage tanks for refined products at the Atzcapotzalco refinery, which placed in operation new processing equipment early in 1947 after an extensive enlargement and modernization program

Mexico Achieves Greater Oil Output in 1947; Further Increase Seen This Year

by Warren W. Burns

MEXICO'S total official production of crude oil last year reached 56,110,515 bbl., or approximately 153,700 bbl. daily, according to Ing. B. Fernandez y Grajales, Petroleos Mexicanos, in a report just made available through the petroleum division of the American Institute of Mining and Metallurgical Engineers. This compares with the 1946 production of 49,239,800 bbl., or approximately 134,900 bbl. daily.

Mexico's current production is around 180,000 bbl. daily. Pemex expects total production this year to approximate 62,000,000 bbl., or an average of about 170,000 bbl. daily.

Mexican crude-oil production has gone up and down for the past 26 years, having reached a peak of 193,398,000 bbl., or approximately 530,000 bbl. daily in 1921. Total production has been under 91,000,000 bbl. yearly since 1926 and under 51,000,000

Oil and Gas Develop

Field—	Discovery year	Area proved, acres	Total oil production, bbl.		Gas production, million cu. ft.		Number of oil and/or gas wells	
			To end 1947	During 1947	To end 1947	During 1947	Completed to end 1947	Completed 1947
NORTHEASTERN MEXICO								
Camargo	1946	.....	0	0	0	0	2	2
La Presa	1931	.....	0	0	3,443	159	3	0
Laredo	1937	70	0	0	4	4	3	0
Mier	1936	.....	0	0	17,254	1,181	7	0
Rancherias	1933	1,230	0	0	14,779	1,051	7	0
Mision	1945	3,479	‡25,098	‡13,171	2,226	1,113	4	0
TAMPICO AREA								
Poza Rica	1930	15,851	293,571,225	†31,849,982	†297,865	†28,505	20	8
Northern district (Ebano, Panuco, etc.)	1901	100,000	791,108,748	10,027,185	.....	.....	1,668	3
Southern district (Golden Lane)	1908	33,000	1,077,232,975	7,791,422	.....	.....	544	0
Other fields (South Sebastian, Tanhuijo, Mecatepec, Furbero)	....	.....	4,145,869	18,246	.....	.....	55	0
ISTHMUS OF TEHUANTEPEC								
Cuichapa	1934	572	2,054,228	358,425	.....	189	14	0
El Burro	1930	370	16,769,673	601,299	.....	155	41	0
El Plan (Lignitic Hor.)	1931	830	52,951,059	1,437,115	.....	461	69	0
El Plan (Concepcion Hor.)	1943	360	7,828,019	2,840,197	.....	1,924	41	11
El Plan (Eastern Ext.)	1934	186	991,907	150,398	.....	126	4	0
Filisola	1921	460	21,023,272	252,944	.....	104	81	0
Teapa Nuevo	1928	40	215,594	12,998	.....	.....	8	0
Tonala	1928	470	45,170,941	757,102	.....	288	93	0
Other fields (South Cristobal, Capoacan, Concepcion, Tecuanapa, Ixhuatlan, Belem, Sarlat, etc.)	....	.....	377,231	30	.....	.....	....	0
			2,313,465,839	56,110,515				

*Corresponding to November 1946.
†Includes one well completed in Tertiary sand.
‡Distillate.
§Refers to deepest sand.

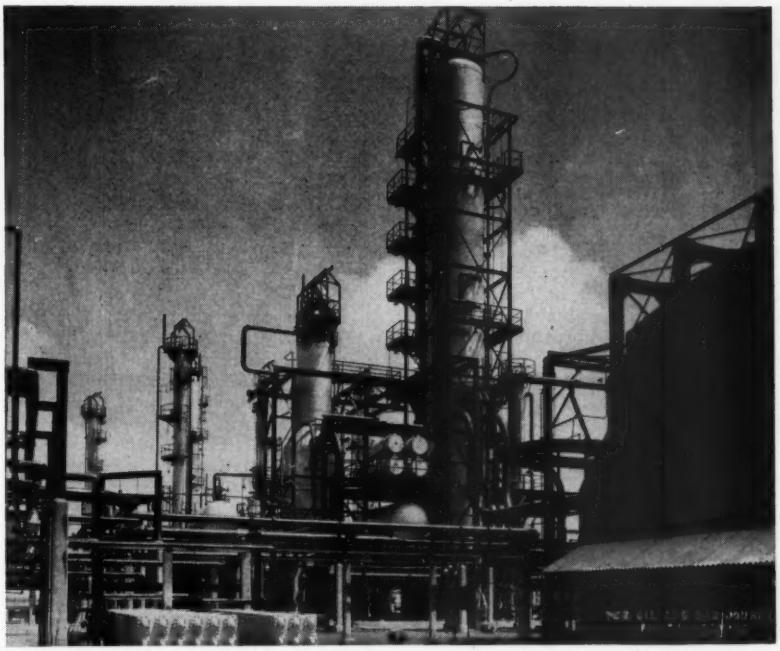
bbl. yearly since 1928. Last year was the first time the annual production has passed the 50,000,000 bbl. mark in 20 years.

The 1947 production, which was about 20 per cent over 1946, was due to new wells in Poza Rica and El Plan. Last year the drilling tempo was increased both in proven areas and wildcat exploration. Thirty wells were drilled in proven areas resulting in 24 producing wells and 6 dry holes. Of 22 wildcats drilled, only 3 were productive. Pemex plans to step up its drilling operations this year.

Fifty-seven per cent of Mexico's 1947 production came from Poza Rica field; 18 per cent from the Tampico district; 14 per cent from the Golden Lane; and 11 per cent from the Isthmus of Tehuantepec.

Current plans in Mexico call for steadily increasing the country's production, both to meet a steadily increasing domestic demand and to provide a margin of exports.

Jorge J. Cumming, assistant director of exploration for Pemex, told geologists of Pemex at their third annual meeting held in Mexico City early in January, that "oil production possibilities in our territory are very favorable, surely more so than those of the United States where only fields of small magnitude remain to be discovered. It is reasonable to expect that fields discovered would be at least three times as big in reserves as those recently found in the neighboring country. This means that for every exploratory well completed as a producer, the new reserves discovered will amount to 18,000,000 bbl."



Pictured here is the topping unit, preflash tower, and main fractionator of the Pemex Mexico City refinery

Government estimates of current reserves, by areas, include: Poza Rica, 932,000,000 bbl.; Tampico, 90,000,000; and the Southern Zone, 36,000,000 bbl.

The accompanying table shows the oil and gas developments in Mexico for 1947:

ment in Mexico in 1947

Reservoir pressure, psi.		Character of oil		Producing formation					Deepest zone tested to end 1947	
Gas initial	Average at end of of 1947	Gravity A.P.I. at 60° F.	Sulfur (per cent)	Name and age	Character	Porosity (per cent)	Depth to top of producing zone (ft.)	Productive thickness, av. ft. net	Name	of hole (ft.)
				NORTHEASTERN MEXICO						
....	....	....	....	Vicksburg, Eoc.	S	...	2,165	45	Jackson	3,596
700	....	....	....	Mount Selman, Eoc.	S	15	1,305	38	Carrizo	5,970
320	....	....	....	Mount Selman, Eoc.	S	20	720	12	Carrizo	2,000
§900	900	....	....	Mount Selman, Eoc.	S	23	2,120	....	Carrizo	2,935
860	....	....	....	Fayette, Cook Mtn., Yegua, Eoc.	S	27	1,440	310	Mount Selman	6,265
2,760	....	....	....	Vicksburg, Eoc.	S	20	5,800	310	Vicksburg	8,046
				TAMPICO AREA						
3,294	*2,357	30	1.8	Tamabra, L. Cre.	L	10	7,250	296	Triassic	8,499
....	....	12	5.02	Tamaulipas, Sn. Felipe, L. Cre.	L	Fis.	1,148	(¶)	L. Cretaceous	4,182
....	....	20	3.64	El Abra, L. Cre.	L	Cav.	2,200	(‖)	L. Cretaceous	10,585
....	....	....	....	.....	..	...	....	....	.....	....
				ISTHMUS OF TEHUANTEPEC AREA						
800	....	30	1.6	Encanto, Mio.	S	...	2,100	33	Oligocene	4,903
....	....	26	1.5	L. Concepcion, Encanto, Mio.	S	...	2,460	62	Oligocene	5,423
....	....	24	2.0	Cedral, Lignitico, Filisola, Mio.	S	...	1,970	216	Miocene	6,191
2,700	....	30	....	L. Concepcion, Mio.	S	...	5,734	131	Oligocene	10,059
....	....	35	1.45	U. Concep., L. Concep., Eoc.-Mio.	S	..	3,883	32	Oligocene	5,327
....	....	22	3.42	Encanto, Mio.	S	...	1,585	92	Miocene	3,608
....	....	36	1.15	Encanto, Mio.	S	...	429	29	Miocene	1,733
....	....	28	1.6	L. Concep., Eoc.-Mio., Deposito, Olig.	S	...	1,640	167	Eocene	4,287
....	....	....	....	.....	..	...	....	....	.....	....

¶Production found in fractures into the first 800 ft. of the Tamaulipas and San Felipe formations.

‖Reef-phase limestone penetrated only 2 ft.

WASHINGTON WATCHING

BY BERTRAM F. LINZ

Who'll Take the Monkey?

WASHINGTON.—Defense officials would like very much to stockpile oil along with other but less controversial strategic materials, but they would like still more to receive a definite mandate from Congress to undertake an operation which they foresee would inevitably lead to civilian consumer rationing.

Congress, on the other hand, as evidenced by the House armed services subcommittee report on military oil last week, wants the military to submit a definite stockpiling program on which it could lay the blame if rationing had to be adopted.

Several years ago, when the stockpiling idea was originally under consideration, the congressional committees in charge of the legislation had oil in mind as one of the materials to be accumulated, but the military had oil taken out of the bill because, they said, its stockpiling was impracticable.

At that time, with Canol and other abortive efforts of the Government to produce new oil in mind, they agreed with the industry that the best defense reserve was productive fields, fully developed. In some quarters, that view still predominates but has lost some force in the face of undeniable assertions that we could not today produce domestically the additional 3,000,000 bbl. daily which another war would require.

Military officials not only want Congress to order the stockpiling of oil, but they would very much like to have it tell them how to go about the job. Recent hearings on the subject by congressional committees have developed as many different suggestions as there were witnesses, and the only thing those suggestions had in common was that any stockpiling program would cost billions of dollars and require years for accomplishment.

Movie Preview

THE Supreme Court last week handed down an opinion which eventually may settle the question of whether a producer and distributor of a product may also sell it at retail in competition with retailers who have no production—in other words, whether integrated oil companies may own and operate filling stations.

The Government, for some years, has been attempting to force the motion picture producers and distributors to divest themselves of their theater holdings. The lower court decided against it, and the Supreme Court sent the issue back for reconsideration.

Organization and practices of the oil industry largely parallel those of the movies, and over the years have been the subject of the same complaints: That operation of retail outlets by integrated companies places independents at a serious disadvantage; that suppliers require retailers to take all their products and so deprive them of the opportunity freely to select what they wish to handle, and so on.

The decision was the second in as many weeks that may have an effect on the oil industry. Earlier, the court, in a case involving the cement industry, outlawed the basing-point pricing system, which may be extended to the so-called "Group 3" prices in the oil industry, which were attacked by the Government in the Mother Hubbard suit.

Justice Department officials in the past have indicated their belief that if exhibition is divorced from production and distribution in the movie industry, marketing should be divorced from production and distribution in the oil industry, and if the final decision in the film case is what they are hoping it will be it is quite likely that the same principles invoked with respect to motion pictures will be applied to petroleum.

Tidelands Fast One

SEN. SHERIDAN DOWNEY of California pulled a quick one in the Senate last week, when he succeeded in having the House-approved tidelands bill placed on the calendar, but whether his strategy will avail him anything will depend largely on the temper of the Senate if and when he tries to call it up for consideration.

Under a rule rarely invoked, a senator can have a bill put on the calendar after it has been read, preventing its referral to a committee, and paving the way for it to be called up at any time. Such a bill can be taken from the calendar and sent to a committee only by a majority vote of the Senate.

Downey's move brought sharp outbursts from Senators George D. Aiden of Vermont and Charles W. Tobey of New Hampshire, the former characterizing it a "most high-handed, outrageous procedure" which would have the effect "of robbing the people of the country of the naval oil reserves, and of overthrowing the decision of the Supreme Court."

Sen. Scott W. Lucas of Illinois also objected, and announced he would move to have the bill sent to committee.

The California senator explained he has no intention of seeking to rush a vote on the House bill, but wanted to insure that if "for any reason the judiciary committee does not bring in some kind of a report in time for Congress to express its opinion, the Congress of the United States, and not a small minority, may have its will prevail."

The "small minority" is spearheaded by Sen. Forrest C. Donnell of Missouri, who is waging a one-man fight against the relinquishment of the federal Government's claim to the California tidelands.

Postponed Again

REVISION of the Natural Gas Act as provided for in the Rizley-Moore bill may be put off until next year because of growing indications that the legislation may encounter rough going in the Senate.

The Senate interstate commerce committee met last week for the purpose of voting on the measure, but after a brief discussion postponed action until May 13, and there were reports that members of the gas industry were urging that the bill be pigeon-holed lest it become a campaign issue.

This move was prompted by a split in the committee which probably will limit a favorable report to a small majority, paving the way for a bitter fight on the Senate floor, where it is not believed it would get sufficient support to over-ride a presidential veto. While on the floor, it would be a political football and good campaign material in the gas-consuming states, where it has been tagged a "multibillion-dollar steal" as a result of charges it would lead to big increases in rates.

Members of the industry who are sensitive to public reaction believe now that the bill will fare better if put aside until next year, when the political pressure will be less compelling. They apparently reached that position through observation of what was happening in oil, where the Aramco investigation and the tidelands bill are being exploited to the limit in many sections of the country. In practically every speech he makes, for instance, Henry A. Wallace attacks the "oil trust."

Rationing Essential if Agreement Fails, Armed Services Group Says

by Bertram F. Linz

WASHINGTON.—Declaring that the nation is in a "critical oil situation," the House Armed Services oil subcommittee headed by Rep. Dewey Short of Missouri recommended last week that if the voluntary agreement now being worked out by the petroleum industry gives evidence of failure within the next 6 months rationing of oil should be adopted forthwith.

The report was the most pessimistic analysis of our petroleum outlook to emanate, so far, from any congressional or governmental source. Emphasizing that its 3 months of study were concerned only with the military situation, the subcommittee said its findings were not "war mongering or alarmist talk" but that it is convinced the nation is in a "grave situation" and the national defense in a "precarious position" in respect to its petroleum.

This conclusion, Short explained, was based on testimony that the gap between domestic production and demand will continue to widen, that future additions to reserves are not likely to average 1 billion barrels a year, that it is gravely doubted whether military jet-fuel requirements could be met in event of a war, that the Navy does not have enough oil on hand to meet an emergency, and that top military leaders said petroleum is the most critical logistic matter in our entire security.

Steel Is Key

Keystone to the problem of developing our oil resources to the maximum was seen by the subcommittee to be steel, and it recommended that if the allocation agreement to channel steel to the petroleum industry shows signs of breaking down in the first few months of its operation, "Congress must, in the interest of national security . . . proceed forthwith to establish, by government controls, allocation of steel to the essential users."

The situation, the report continued, also demands that the Armed Services Committee promptly undertake an inquiry into the problems of the steel industry from the national defense point of view.

Rationing of oil will be necessary, it was declared, "if domestic consumption of oil products stays at the present level or continues to rise, if the armed forces continue to face a situation where an insufficient supply of petroleum can be provided to meet a war emergency, or if the international situation continues to augur world crisis, with overtones of possible armed conflict."

"To oppose deficit operations in Government finance, but to acquiesce in such operations in respect to the Nation's oil, seems to us to be indefensible as well as illogical," the subcommittee said.

Stock-Piling Asked

Besides its recommendations for allocation of steel and oil, the subcommittee called on the armed services to submit a definite petroleum stock-piling program, criticizing their laxity in not having done this before.

It also called for a prompt decision as to expansion of the Elk Hills naval reserve and said the Navy has been remiss in not developing a program for additonal reserves. Such reserves, it said, should be established in the tidelands if they are held to belong to the Government, and the Geological Survey should be given funds to make a thorough exploration of the public lands. A further recommendation in the field of government called for larger appropriations for the Oil and Gas Division.

In the field of foreign operations, the subcommittee flatly rejected all arguments that the trans-Arabian pipe line is necessary, declaring that much more can be realized, at least in the immediate future, from the construction of additional tankers. Construction of pipe lines in Saudi Arabia, it said, should be postponed until "a more propitious international atmosphere develops" or until the steel shortage is alleviated.

The subcommittee held that all barriers to imports, including the import tax if necessary, be removed.

The report accepted whole-heartedly the proposition that the domestic oil industry must remain healthy and vigorous, as a first line of defense in the event of war, but explained that "we believe that the industry must be prepared to take steps to insure our regaining excess productive capacity, that it must be determined to see above all that the armed forces will receive adequate supplies in the event of war, and that when such considerations traverse normal business concepts, those considerations must be given priority attention.

Cool Toward Synthetics

With respect to synthetic fuels the subcommittee was more than skeptical. Agreeing that their development should be pressed vigorously, it warned that many years would be required for the establishment of any large-scale industry, conventional processes will produce more oil more quickly and cheaply, and that once oil has entered the commercial market, only about 1 per cent of it is reclaimed for emergency use. For these reasons, the country can gain little by subsidizing a tremendous synthetic development at this time, it held.

Other steps to meet the situation include the provision of needed pipe for expansion of natural gas services, which will reduce the consumption of petroleum, acceleration of secondary recovery, and research by the armed services into more efficient methods of finding and producing oil.

The subcommittee also called on the military to submit legislative proposals in respect to subsidies to maintain production facilities for fuels used for rocket engines, and urged the House Merchant Marine Committee to give quick approval to the Administration's proposals for a large-scale tanker-building program.

"The Government has been guilty of half-hearted action in its dealings with the petroleum problem, and we hope that this report will be helpful in motivating more vigorous action in the variety of activities covered in this report," the subcommittee said in conclusion.

Next Week . . .

Will be the Journal's I.P.E. Special Issue No. 2, featuring:

A 12-page word and picture report covering events on the grounds of the world's greatest industry exposition.

A comprehensive 20-page summary of expansion plans in the fields of exploration, drilling, production, pipe-line construction, refining, and cycling operations, as reflected in this year's exposition.

In addition, the Journal will carry its usual industry-wide news coverage, highlighted by an on-the-spot report of the meeting in Philadelphia of the Refining Division of the American Petroleum Institute . . . and its usual quota of feature articles covering engineering and operating developments.

Industry Problems Are Result of Gas Act Regulation, A. G. A. Told

by Dahl M. Duff

HOUSTON.—The Natural Gas Department of the American Gas Association at its meeting here last week was told that the character of regulation during the 10 years of the federal Natural Gas Act is largely responsible for many of the difficulties the industry is now facing.

The speaker was William A. Dougherty, New York, vice president and general counsel of Consolidated Natural Gas Co. and legal representative of various other gas interests.

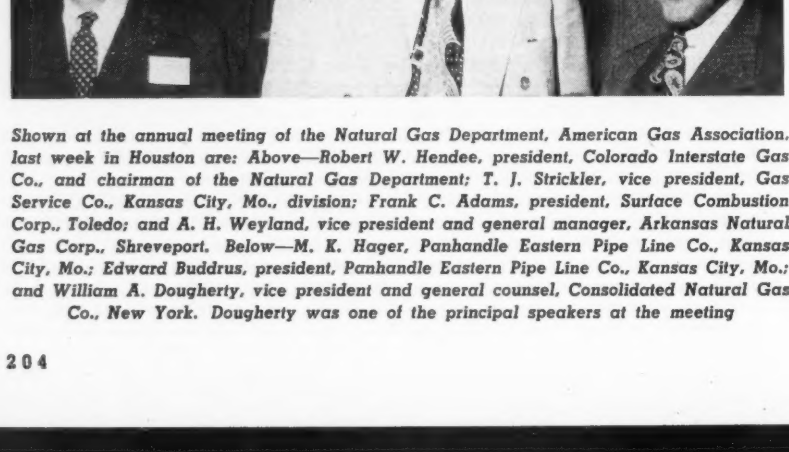
"The natural-gas industry at the end of 10 years under the act finds itself with market demands it cannot satisfy, needs for pipe it cannot buy, and vast reserves of gas in the hands of producers hesitant to sell to interstate pipe lines for fear of federal regulation," he declared. "Verily we are in a dismal morass of criticism, conflict, and consternation.

"It cannot fairly be claimed that the Natural Gas Act is the cause of the present predicament. I agree with the statement . . . that the act is 'an effective instrument of regulation.' But I do claim that the character of regulation under the act and the direction in which that regulation now seems pointed has been and will continue to be a dominant reason for the difficulties under which the industry is now struggling."

Dougherty charged that the industry's expansion the last 10 years was in spite of rather than because of federal regulation.

Until the act is amended, Dougherty said, there will continue to be dissatisfaction on the part of consumers to get all the gas they want and a refusal on the part of producers to "put their neck in the noose of federal regulation." "Today the commission stands divided on issues of vital importance to producers, trans-

(Continued on page 467)



Shown at the annual meeting of the Natural Gas Department, American Gas Association, last week in Houston are: Above—Robert W. Hendee, president, Colorado Interstate Gas Co., and chairman of the Natural Gas Department; T. J. Strickler, vice president, Gas Service Co., Kansas City, Mo., division; Frank C. Adams, president, Surface Combustion Corp., Toledo; and A. H. Weyland, vice president and general manager, Arkansas Natural Gas Corp., Shreveport. Below—M. K. Hager, Panhandle Eastern Pipe Line Co., Kansas City, Mo.; Edward Buddrus, president, Panhandle Eastern Pipe Line Co., Kansas City, Mo.; and William A. Dougherty, vice president and general counsel, Consolidated Natural Gas Co., New York. Dougherty was one of the principal speakers at the meeting

Turbine Drill Will Be Field Tested This Week

ENGINEERING DEVELOPMENT CO., Dallas, is scheduled to begin initial field tests of a turbine drill this week in the vicinity of Mount Holly field, Union County, South Arkansas.

Fixed to the bottom of the drilling string, the turbine will be driven by pressure of the drilling fluid to rotate a conventional tricone rock bit.

The test is Spartan Drilling Co.'s 1 John Crisp Estate, Section 34-17s-18w, scheduled to drill to the Smackover lime at about 7,400 ft. If possible the turbine drill will be used to drill the entire hole.

The rig is standard for that region and depth, and the only important changes in its setup will be extension of mud pits and addition of baffling to give longer settling time. If sand content in the 10.4-lb. drilling mud is high, excessive wear on the turbine might result.

Performance of the new tool will be tested at various mud volumes and discharge pressures and at various bit weights. Critchell Parsons is president of the firm, which is backed by Grady Vaughn of Dallas and certain eastern interests.

Bureau of Mines Will Dedicate Laboratories

Dedication of the synthetic liquid fuels research and development laboratories at the Bureau of Mines experimental station at Bruceton, Pa., will be held May 21.

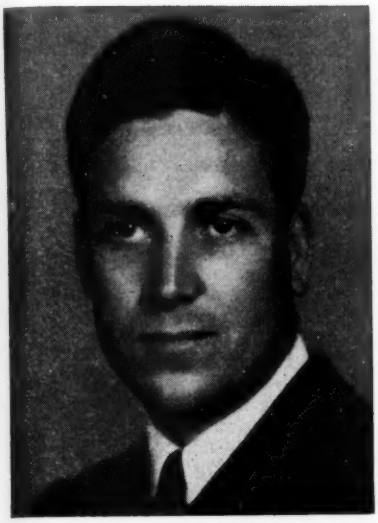
Speakers on the program will include Secretary of the Interior J. A. Krug; Joseph C. O'Mahoney, senator from Wyoming; A. C. Fieldner, chief of fuels and explosives division, Bureau of Mines; and Lt. Gen. Brehon Somervell, president, Koppers Co., Inc.

Also scheduled on the program is an informal banquet and the unveiling of a plaque by H. H. Storch, chief of synthetic fuels research and development branch, Bureau of Mines.

Highland Oil Buys 25 Wells in Sour Lake

HOUSTON. — Highland Oil Co., Houston, has purchased producing properties including 25 wells in the east, southwest and northern flanks of Sour Lake field, Hardin County, Texas. Average production is about 1,100 bbl. daily, and the purchase price was $2,200,000. The properties were sold by the Slatex Joint Venture.

PERSONALS



Gas Engineer Is New Manager of Old Ocean

MAX R. LENTS, who last week became vice president and general manager of Old Ocean Oil Co. and J. S. Abercrombie Co., Houston, is particularly well known for his engineering work in the field of gas cycling operations.

A 1936 graduate of the University of Oklahoma with a B.S. degree in petroleum engineering, Lents was employed by Shell Oil Co., Inc., in experimental and engineering work until 1941. At that time he went with the Cotton Valley (La.) Operators' Committee as process engineer, and in 1943 was made assistant to the general manager of the Cotton Valley Unit gas cycling operation.

A year later Lents became assistant to the general manager of the Operators' Committee in charge of the Haynesville (La.) pressure-maintenance project. In 1946 he joined Old Ocean Oil Co. and J. S. Abercrombie as assistant to the general manager handling production and plant operations in Old Ocean field. As the new vice president and general manager of the companies, Lents succeeds J. R. Butler who is organizing a consulting firm in Houston.

The Abercrombie company is the operator of the unit which was recently formed in Old Ocean field, one of the largest gas-condensate reservoirs on the Gulf Coast. Some 85 per cent of the interest in the field is held by Magnolia Petroleum Co. and Old Ocean. The unit is now complete as to operators and about 40 per cent of the royalty owners.

Hines H. Baker, executive vice president of Humble Oil & Refining Co. since 1945, was elected president of the company at a meeting of the board of directors in Houston May 10. **Harry C. Wiess,** president since 1937 and one of the original founders of Humble, was made chairman of the board. **Morgan J. Davis,** chief geologist and manager of exploration, and **C. E. Reistle, Jr.,** manager of production, were elected to the board of directors of Humble. Baker, who was elected a director in 1937, was placed in charge of refining and sales in 1940, and in 1941 was made vice president over those operations. Wiess, who began his oil career in Houston in 1909 with oil companies organized by his father, served as Humble's vice president in charge of manufacturing from 1919 to 1933. At a recent stockholders' meeting authorization to increase capital stock from $300,000,000 to $475,000,000 was granted.

George H. Roth, who for the past 5 years has been senior geologist for Shell Oil Co., Inc., at Bakersfield, Calif., has resigned to become associated with **Ross Cabeen** as a consulting geologist. Roth has been with Shell for 13 years.

Taylor Cole, geologist and oil operator at Midland, Tex., is conducting a 2-week lecture program at the University of Oklahoma for advanced students in the geological department.

John P. Hammond, Amerada Petroleum Corp., has been named chairman of the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers for the 1948-49 period. **J. Murray Walker,** Lane-Wells Co., has been named first vice chairman in charge of programs; **Russell H. Gwinner,** Sunray Oil Corp., is second vice chairman in charge of membership and public relations; and **Roy H. Smith,** Stanolind Oil & Gas Co., is secretary-treasurer.

GEN. M. J. ZEVADA

Gen. Manuel J. Zevada has been elected president and general manager of Southeastern de Mexico S.A. de C.V. Zevada, a Mexican petroleum and mining engineer, will handle Southeastern's negotiations for oil drilling contracts and supervise their execution. From 1925 to 1935 Zevada was general supervisor of gas and oil for the Mexican Government and later was associated with Petroleos Mexicanos in charge of the expropriated refineries. From 1940 until 1947 he was undersecretary of national economy in the cabinet of President Avila Camacho.

Frank T. Clark, geologist in the Houston office for Cities Service Oil Co., Bartlesville, Okla., has been named division geologist of the newly created Fort Worth division to handle exploration activities in North and West Texas and New Mexico. He will be headquartered at Fort Worth, where the new offices are to be opened next month. Other personnel appointed include **Frank Gooter,** landman at Wichita Falls, to division landman, Fort Worth, and **E. J. Gemmill,** division geophysicist at Houston, to division geophysicist at Fort Worth.

Pictured here are officers of the Permian Basin chapter of the American Petroleum Institute and the principal speaker at the chapter's recent meeting at Odessa, Tex. Left to right are R. B. Saxe, Gulf Oil Corp., Odessa, chairman of the chapter; Ray A. Lynch, Phillips Petroleum Co., legal department, and principal speaker; Jay Boxell, Phillips Petroleum Co., Midland, secretary-treasurer; and E. N. Spiars, Spiars-Well Equipment Co., Odessa, advisory board member and arrangements committee chairman. Theme of the meeting, which was attended by more than 800, was unitization

PERSONALS

Representatives of Cities Service Oil Co.'s marketing, legal, engineering, and crude-oil purchasing and sales department also will be housed in the new quarters.

C. Dudley Beene, formerly in the title department of Sohio Petroleum Co. at Shreveport, has joined Superior Oil Co. as scout in the Shreveport area. He succeeds **Clark Baker,** who has been named district landman for Amerada Petroleum Corp. at Jackson, Miss.

Robert L. Wood, president of Frontier Chemical Co., electrochemical manufacturers, has been named a vice president of the Independent Petroleum Association of America for a newly created area covering the West Texas Permian Basin. **R. C. Kay,** of Amarillo, has been named vice president for the newly created Panhandle area.

Recent promotions and transfers of Stanolind Oil & Gas Co. personnel include: **Richard Mungen,** senior chemical engineer to research group supervisor and placed in charge of the chemical engineering group of the process section, research department, Tulsa; **J. W. Hamilton,** district landman, Shreveport, La., to division landman, Central division, Oklahoma City, Okla.; **Harold F. Patterson,** assistant seismograph party chief to seismograph party chief at Stamford, Tex.; **J. L. Mataya,** seismograph party chief at Stamford, Tex., to Sheridan, Wyo.; **R. F. Mathews,** senior mechanical engineer to mechanical engineering group leader, manufacturing department, general office, Tulsa; **Eldred E. Hancock,** first class engineer to plant foreman, South Jennings cycling plant, Jennings, La.; and **David M. Liles,** first class engineer at South Jennings cycling plant, Jennings, La., to plant foreman, Gilliam gasoline plant, Gilliam, La. Transfers and promotions in the producing department include: **Louis H. Bryan,** head roustabout, East Texas field, Greggton, Tex., to farm boss, Hendrick field, Wink, Tex.; **Peter F. Forness,** head roustabout, Slaughter field, Brownfield, Tex., to farm boss at Hendrick field; **Charles A. Lutz,** head roustabout to farm boss, Slaughter field; **Victor B. Marsh,** farm boss, Hugoton field, Ulysses, Kans., to production foreman, West Edmond field, Oklahoma City; **Leslie L. Martin,** head roustabout, Hobbs field, Hobbs, N. M., to farm boss, Levelland field, Levelland, Tex.; **Charles V. Campbell,** production foreman, Hobbs field, to Andrews field, Andrews, Tex.; **Truman C. Harman,** farm boss, Hobbs to Hogback field, Farmington, N. M.; **Ernest R. Holt,** production foreman, Andrews field, to North Cowden field, Odessa, Tex.; **Keith W. Huiatt,** farm boss, East Texas field, Greggton, Tex., to Hobbs field; **Harold W. Herndon,** production foreman, Yates field, Iraan, Tex., to Hobbs field; and **John J. Taylor,** farm boss at Hendrick field, to production foreman at Yates field, Iraan, Tex.

W. S. Blanton has been named scout for Magnolia Petroleum Co. at Mount Vernon, Ill., to succeed **Ed Dunbar,** who recently was transferred to Wichita, Kans.

James C. Martell, vice president of Coastal Oil Co., Newark, N. J., has been placed in charge of operations of the company. Before joining Coastal last year Martell was civilian chief of the petroleum requirements section of the fuel division, Washington, and during the war served as fuel officer in the Navy.

Henderson Supplee, Jr., vice president and general manager of domestic sales for Atlantic Refining Co., has been elected a director of the company. **H. W. Field** and **John D. Gill,** whose terms as directors had expired, were reelected to 3-year terms.

Woodfin L. Butte, chairman of the Middle East Committee, Standard Oil Co. (N.J.), has left for Egypt on a business trip.

L. W. Gwin has sold his interest in the Schneider & Gwin Drilling Co., and has organized Gwin Drilling Co., with headquarters in Percy, Ill.

C. R. Boling, who began his oil career with Marland Oil Co. (now Continental Oil Co.) and has long been active in the oil industry in the southwest, has been appointed representative of the Oklahoma-Texas-Louisiana region of the J. J. Lynn Oil Production Division, Kansas City, Mo. The regional offices will be located in the McBirney Building, Tulsa. The appointment of Boling marks the expansion of the J. J. Lynn interests in the Southwest. Lynn operates in Illinois, Kansas, and Oklahoma, and has a branch office in Flora, Ill.

K. G. Walsworth, head of the Mount Pleasant, Mich., field office of the geological survey division of the Michigan department of conservation, has been transferred to the Lansing main office to act as assistant petroleum geologist under **Rex P. Grant. V. P. Sargent** will replace Walsworth. **Gordon Hautau** will take charge of all well testing and other studies related to production engineering and proration matters throughout the state. He will continue to operate from the Mount Pleasant field office. **William Smiley** has been named to replace Hautau at the Mount Pleasant field office.

T. A. Atkinson and **E. R. Paul** have been promoted to the positions of manager and assistant to the manager, respectively, of the industrial-relations department of General Petroleum Corp. Atkinson, former assistant manager of industrial relations, began his career with General Petroleum by working summers from 1926 to 1931. He joined the company as a well puller and has held various positions in the production department. Paul, who first worked for the company as an assistant chemist in 1924, has advanced through the ranks, holding various field positions and for nearly 20 years has been assistant manager of the personnel department.

Members of the recently created Oil and Gas Board of Mississippi are shown here as they attended the quarterly meeting of the Interstate Oil Compact Commission meeting in Chicago. Left to right are W. C. Leonard, Koscuisko, Miss.; James McClure, Sardis, Miss.; and W. M. Vaughey, Jackson, president of the Mississippi-Alabama division of the Mid-Continent Oil and Gas Association

R. B. Harbottle, former manager of the economics and statistics department of Shell Oil Co., Inc., has been appointed general auditor to replace **J. O'Brien** who has retired.

S. G. Coultis of Calgary was elected a director of Royalite Oil Co. of Calgary to succeed **M. L. Haider,** Toronto.

Leonard A. Toone, manager, Cia. de Petroleo Shell de Colombia, is on a business trip to the United States. Toone was formerly connected with Anglo-Egyptian Oilfields, Ltd., in Egypt.

Dr. John Y. Beach, Dr. James O. Clayton, and **Dr. Ronald T. Macdonald,** scientists at the Richmond laboratories of California Research Corp., a subsidiary of Standard Oil Co. of California, have been named research associates in recognition of their technical achievements. Beach, as a research associate, is the company's technical specialist and consultant in spectrography and X-ray and electron diffraction. Clayton becomes research associate in petroleum products research. Macdonald becomes research associate in the company's greases and industrial lubricants division.

Everett F. McTernan, former head of atmospheric distillation, Esso Standard Oil Co., has been named head of the newly organized distillation and cracking department at the Bayway refinery. **Warren C. Wilson,** New Jersey Works process coordinator, has been named assistant department head. The four division heads named are **William C. Jehle,** thermal cracking; **Frank S. Sherwood,** catalytic cracking; **Walter F. Farrell,** light ends; and **Arba S. Taylor,** atmospheric distillation.

Charles A. Yeatman, assistant manager of the marketing operations department of Shell Oil Co., Inc., in the Pacific Coast territory, has been transferred to Shell Pipe Line Corp., Houston, in an administrative capacity. Yeatman, formerly in the production department, became assistant manager of marketing operations in 1941. **Thornton Beall,** presently enrolled in the advanced management training program of the Harvard Graduate School of Business Administration, has been named head of the new planning section in the operations department.

SHIFTS—

Lyman O. Calkins, Jr., engineer, Fluor Corp., Ltd., Rosemead to North Palo Alto, Calif.; **C. E. Smith,** engineer, Union Oil Co. of California, Bakersfield to Brea, Calif.; **Hugh D. Guthrie,** engineer, Shell Development Co., Berkeley to Forest Knolls, Calif.; **Jack L. Starr,** engineer, Union Oil Co. of California, Orcutt to Brea, Calif.; **C. T. Rankin,** geologist, Amerada Petroleum Corp., Roswell, N. M., to Lewiston, Mont.; **Carl B. Mueller,** engineer, Stanolind Oil & Gas Co., Fort Worth to Odessa, Tex.

F. G. Brooks, foreman, Pasotex Pipe Line Co., Goose Creek to Baytown, Tex.; **T. C. Langford,** engineer, Humble Oil & Refining Co., Goose Creek to Baytown, Tex.; **John Moir,** engineer, Atlantic Refining Co., Greggton to Houston, Tex.; **J. F. Frank Crews,** superintendent, Atlantic Refining Co., Houston, Tex., to Franklin, La.; **Roy A. Baze,** engineer, Humble Oil & Refining Co., Luling to Raymondville, Tex.

I. T. Pryor, III, engineer, Humble Oil & Refining Co., Overton to Tyler, Tex.; **H. W. Roberson,** superintendent, Humble Oil & Refining Co., Palestine to Overton, Tex.; **Oiva John Karna,** engineer, Lummus Co., Port Neches, Tex., to Port Chester, N. Y.; **J. W. Dix,** engineer, Barnsdall Oil Co., Arcadia to Opelousas, La.; **Russell R. Johnson,** engineer, Standard Oil Development Co., Baton Rouge, La., to Elizabeth, N. J.

J. R. Ramirez, engineer, Standard Oil Co. of Indiana, Calumet City, Ill., to Santa Ana, Calif.; **Warren A. Roberts, Jr.,** engineer, Phillips Petroleum Co., Carmi, Ill., to Bartlesville, Okla.; **C. W. Hemmi,** geologist, Petty Geophysical Engineering Co., Greenville, Miss., to Houston, Tex.; **C. C. Peavy,** engineer, Houdry Process Corp., New York to Philadelphia, Pa.; **W. T. Hudson,** engineer, California Co., Craig, Colo., to New Orleans, La.

J. A. Wise, foreman, Ohio Oil Co., Webb City to Wolco, Okla.; **Wesley H. Seifert,** foreman, Magnolia Petroleum Co., Chickasha to Oklahoma City; **Dean Stevens,** engineer, Anderson-Prichard Refining Corp., Cyril, Okla., to Cody, Wyo.; **Forrest C. Morgan,** engineer, Phillips Petroleum Co., Kaw, Okla., to Odessa, Tex.

DEATHS

Dr. Gayle Scott, 53, head of the Texas Christian University geological department, died May 2 in Fort Worth. He was a well known geologist, southwestern area consultant for major oil companies, and vice president of the paleontological section of the Geological Society of America, having been named to that post in 1937.

Albert S. Matthews, 67, at one time vice president of Pennzoil Oil Corp., and executive of Tide Water Associated Oil Co. of New York before becoming president of Packard Federal Corp. of New York, died May 5 in New York.

Martin A. O'Brien, 61, manager of the production department of American Republics Corp., Houston, who had been with the company 25 years, died May 8 in Houston.

George W. Schweinhard, 58, founder, of Petroleum Equipment Co., Los Angeles, died April 21, near Gilroy, Calif. After acquisition of Petroleum Equipment by Bethlehem Steel Co. in 1945, Schweinhard continued as manager until his retirement in 1947.

Glenn Skinner, 70, vice president and general manager of Black, Sivalls & Bryson, Inc., died May 7 in Oklahoma City. Skinner had been associated with the company more than 40 years.

Lendall Winslow Pomeroy, 46, senior research chemist of the Johns-Manville Corp. plant at Manville, N. J., and formerly with Barber Asphalt Co., Avenel, N. J., died April 30 in Manville.

James Macom Senter, 65, North Texas oil operator, died May 4 in Cleburne, Tex. He was associated with B. J. Johnson, organizer of Hog Creek Oil Co., when they sold their interests to Magnolia Petroleum Co.

M. J. Sullivan, 73, early day independent oil operator, died May 5 in Kansas City, Mo.

R. N. Dalton, 76, Oklahoma independent oil operator and at one time scout and landman for Carter Oil Co., died May 6 in Okmulgee, Okla.

Bruce D. Howatt, vice president of Ram River Oils, Ltd., of Windsor, Ont., died recently at Wetaskiwin, Alta.

James W. Sheridan, about 55, early day Oklahoma independent oil operator, died May 4 in Tulsa.

Hovey Lane Shaffer, 88, retired Pennsylvania oil operator, died May 2 in Franklin, Pa.

Cordon E. Hinckley, 59, industrial engineer for United Natural Gas Co., died May 2 in Oil City, Pa.

XUM

Speakers at the opening ceremonies, May 15: J. A. Krug, secretary of the interior; Roy J. Turner, governor of Oklahoma; William R. Boyd, Jr., president of American Petroleum Institute; Jose Martorano Battisti, director of Venezuelan Petroleum Bureau; Clark Hungerford, president of Frisco Railroad

SILVER ANNIVERSARY EXPOSITION

Poised for Opening May 15

by Henry D. Ralph

THE world's oil industry displayed on a single lot is the Silver Anniversary International Petroleum Exposition and Congress which opens in Tulsa May 15 for an 8-day stand.

Equipment conservatively valued at $100,000,000, the product of some 1,800 manufacturers, makes this by far the biggest oil show ever held and demonstrates the progress made by the industry in meeting demands for more and better petroleum products.

An equipment display without a peer anywhere, the I.P.E. has other important features, too.

It is an educational institution where postwar scientific and technological developments are assembled for study—a forum for the discussion of current industry problems and the exchange of information—a meeting place and reunion for oil men from all parts of the world.

The international part of the exposition's title will be well justified this year. Delegates from a score of countries, as well as American oil men stationed abroad, will attend, and several of the distinguished foreign visitors will participate in the programs.

Impressive opening ceremonies will launch the exposition at 10:00 a.m. Saturday, May 15. Music by the smartly uniformed band of the University of Tulsa will attract the crowd to the speakers' stand just inside the main gate where the master of ceremonies will be T. P. (Putty) Gilmer of Public Service Co. of Oklahoma. Welcome to the oil world will be extended by Hon. Roy Lundy, mayor of Tulsa; W. G. Skelly, president of the International Petroleum Exposition and Congress, and Hon. Roy J. Turner, governor of Oklahoma.

Brief but significant addresses on the relationships between governments and the industry will then be given by Hon. J. A. Krug, secretary of the interior, and Dr. Jose Martorano Battisti, president of the Venezuelan Petroleum Bureau. Returning to the industry theme, the concluding speakers will be Clark Hungerford, president of the Frisco Railroad which traverses much of the oil country, and William R. Boyd, Jr., president of the American Petroleum Institute, who will unfurl the huge American flag as the signal that the greatest oil show on earth is officially open.

Special Days Designated

Equipment salesmen by the hundreds will be on hand every day to welcome the world's buyers assembled to view their wares. But special days also are set aside to honor other groups in the oil industry—pioneers, associations, publications, foreign delegates, and others. Significantly, 3 days have been set aside for engineering students, and these may attend without charge on any day when accompanied by professors. The Oklahoma State Legislature will attend in a body, May 20.

So important is this exposition considered that all exhibit space was sold out months ago. Every available square foot of the 15-acre show ground has been packed with displays and the exhibits are overflowing to adjacent lots. Nor has any effort been spared to make the displays interesting as well as instructive, and animated models and showwindow treatments give the entire exposition a world's-fair atmosphere.

More than 190,000 admission tickets had been sold to exhibitors for distribution a week before the show opens, and an attendance close to 250,000 was predicted. Many oil companies planned to bring in employes in relays for a day or two of intensive study of the new devices and techniques displayed.

Making the I.P.E. a real convention of the oil industry will be a dozen separate meetings of specialized groups.

Safety engineers have scheduled 2 days of meetings and a program of events which include an all-day "Roadeo" and safe-driving content for truck drivers employed by oil companies.

Pioneers in the industry have their own gathering place, and will be honored by special ceremonies and "Old Timer" awards May 21.

Engineers and scientists of all the branches connected with the oil industry will get together in the Hall of Science.

Purchasing agents are honored by a special day, May 18, capped with

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EXHIBITORS — and where their products will

— A —

Company—	Booth	Building or Block	Grid
A-1 Bit & Tool Co.		Block 104E	F-6
Abegg & Reinhold Co., Ltd.	1-2	Silver Lane	B-2
Acme Fishing Tool Co.	14	Park Lane	F-6
Acme Oil Tool Co., Inc.	62-63	California	B-4
Accurate Fire Equipment Co.	38	Kansas	F-4
Aero Exploration Co.	66	Texas	B-2
Aeroquip Sales & Eng., Ltd.	47-48	California	B-4
Aerovent Fan Co.	44-45	Texas	B-3
Aetna Ball & Roller Bearing Co.	43-43	California	B-4
Ahlberg Bearing Co.	169	Oklahoma	F-3
Airetool Mfg. Co.	41	Kansas	F-4
Air Reduction Sales Co.	30-31-32-33	Oklahoma	F-3
Ajax Iron Works		Block 9A	A-2
Aldrich Pump Co.	30-31	California	B-4
All American Industries, Inc.	47-48	Texas	B-3
Allan, George B., Co.	94-95	Texas	B-3
Allied Bearings Supply Co.	40	Sl. & Tec.	D-4
Allied Paint Mfg. Co.	259	Oklahoma	F-4
Allis-Chalmers Mfg. Co.	53-54	Oklahoma	F-3
Allis-Chalmers Mfg. Co. (Tractor Div.)		Block F-2	D-3
Allis Co., Louis	48-49	Kansas	F-4
Alloy Products Corp.	56-57	Kansas	F-4
Aluminum Co. of America	58-53-54-55	Sl. & Tec.	D-4
Altens Foundry & Machine Works, Inc.	115	Oklahoma	F-3
American Air Filter Co.	16-17	Texas	B-2
American Airlines, Inc.		Block A-A	B-2
American Blower Corp.		Block 3A	C-2
American Body & Trailer, Inc.		Block V-4	D-4
American Bridge Co.	136-148	Oklahoma	F-2
American Bosch Corp.	58-59	Texas	B-3
American Brass Co.	206-209-210	Oklahoma	F-2
American Car & Foundry Co.		Block 3A	C-2
American Chain & Cable Co.	157-158-173-174-175-176	Oklahoma	F-3
American Exploration Co.	75-76	Sl. & Tec.	D-4
American Fort Pitt Steel Spring Co.		Block 5	D-2
American Hammered Piston Ring Div. Koppers Co.	73-74-75	Texas	B-2
American Iron & Machine Works	111-112	Oklahoma	F-3
American Iron & Machine Works Co.	111-112	Oklahoma	F-3
American Mfg. Co. of Texas	95	Silver Lane	B-4
American Meter Co.	45-46-57-58	Sl. & Tec.	D-4
American Optical Co.	7	Sl. & Tec.	D-4
American Recording Chart Co.	42-43	Oklahoma	F-4
American Roller Bearing Co.	30-31	Silver Lane	B-3
American Sand-Banum Co., Inc.	101	Texas	B-3
American Steel & Wire Co.	138-140	Oklahoma	F-2
American Steel Derrick Co.	1-2	Kansas	F-4
American Steel Works		Block 102B	F-5
Ames Baldwin Wyoming Co.	8	California	B-4
Ampco Metal, Inc.	32-33	California	B-4
Anchor Burner Co.	102-103-108	Texas	B-3
Armco Drainage & Metals Products, Inc.		Block R-3	E-4
Armco International Corp.		Block R-3	E-4
Armco Steel Corp.		Block R-3	E-4
Armstrong Machine Works	94-95	Texas	B-3
Associated Publishers, Inc.	3	Oklahoma	F-2
Athey Products Corp.		Block C, E	C-D-3
Atlas Ball Div.	67-68	Texas	B-2
Automatic Motor Base		Block V-1	C-4
Axelson Mfg. Co.		Block 1B	E-1

— B —

Baash-Ross Tool Co.	57	Silver Lane	B-4
Bailey Meter Co.	60	Silver Lane	B-4
Baird Mfg. Co.	15	Texas	B-2
Baker Oil Tools, Inc.	98-100		
Baldwin-Lima-Hamilton Corp.		Block 10B	A-4
Barco Manufacturing Co.	18	Block 11	A-4
Barnes Drill Co.	15	Park Lane	F-6
Barnes, Wallace, Co.		Block 10A	A-3
Barrett Div., Allied Chemical & Dye Corp.		Block P-2	E-4
Barrett-Cravens Co.	83-84-127-128	Texas	B-2
Bart Manufacturing Co.	40	Sl. & Tec.	D-4
Bartlett-Hayward Co.		Block 107F	E-6
Bastian-Blessing Co.	12	Silver Lane	B-2
Bay Petroleum Corp.	136-148	Oklahoma	F-2
Bearings, Inc.	91-92	Kansas	F-4
Bell & Gossett Co.		Blk. 6B, 7A, 8A, 3A	E-2
Bell Aircraft Corp.		Block P-2	E-4
Bell Oil Tool Co.		Block 6B, 7A, 8A	E-2
Bellows Co.	51-52	Texas	B-3
Bendix Aviation Corp., Eclipse-Pioneer Div.	17	Kansas	F-4
Bendix Aviation Corp., Marine & Industrial Div.		Block A-3, B, D	C-2
Bendix Aviation Corp., Pioneer Instrument Div.		Block G-1	D-3
Bendix Aviation Corp., Scintilla Div.		Sl. & Tec.	D-4
Bendix Aviation Corp., Stromberg Carburetor Div.		Kansas	F-4
Bendix Aviation Corp., Utica Div.		Oklahoma	F-4
Bendix Aviation Corp., Zenith Carburetor Div.		Sl. & Tec.	D-4
Bendix-Westinghouse Automotive Air Brake Co.	4		
Bendix-Westinghouse Automotive Air Brake Co., Hydraulic Brake Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Industrial Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Marine Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Red Head Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Scintilla Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Stromberg Carburetor Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Utica Div.	26		
Bendix-Westinghouse Automotive Air Brake Co., Zenith Carburetor Div.	26		
Bennett Oil Tool Co.	65-66	Oklahoma	F-3
Bethlehem Steel Co.	106-107	Block 103A	F-4
Bethlehem Steel Export Corp.		Kansas	F-4
Bethlehem Steel Export Corp., Bethlehem Pacific Coast Steel Corp.		Block 3A	C-2
Bethlehem Steel Export Corp., Bethlehem Steel Co.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co.		Oklahoma	F-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Inc.		Block 12	A-6
Bethlehem Steel Export Corp., Bethlehem Supply Co., Pacific Coast Steel Corp.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Steel Co.		Block 103A	F-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co.		Kansas	F-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc.		Block 3A	C-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Pacific Coast Steel Corp.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co.		Oklahoma	F-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc.		Oklahoma	F-3
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Pacific Coast Steel Corp.		Block 11	A-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co.		Block 11	A-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc.		Oklahoma	F-3
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Pacific Coast Steel Corp.		Blk. 6B, 7A, 8A	E-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co.		Texas	B-3
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co.		Block 3A	C-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc.		Sl. & Tec.	D-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Pacific Coast Steel Corp.		Oklahoma	F-2
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co.		Kansas	F-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co.		Block 10A	A-3
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc.		Block F-1	D-3
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Pacific Coast Steel Corp.		Park Lane	F-4
Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co.			
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Bethlehem Steel Export Corp., Bethlehem Supply Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel Co., Supply Co., Inc., Steel

Athey Products Corp. Block C, E C-D-3
Atlas Ball Div. 67-68 Texas B-2
Automatic Motor Base Block V-1 C-4
Axelson Mfg. Co. Block 1B E-1

— B —

Baash-Ross Tool Co. 58 Silver Lane B-4
Bailey Meter Co. 46 Silver Lane B-4
Baird Mfg. Co. 18 Texas B-2
Baker Oil Tools, Inc. 99-100, 101-102 Oklahoma F-3
Baldwin-Duckworth Div. 70-71 Texas B-2
Balmar Corp. 281 Oklahoma F-4
Braniff Airways Outside Texas B-2
Band-It Co. 76 Oklahoma F-2
Bantam Bearings Div., Torrington Co. 185-186 Oklahoma F-2
Barbour-Stockwell Co. Block 3A C-2
Barden Corp. 40 St. & Tec. D-4
Baroid Sales Div., National Lead Co. 83-84, 127-128 Oklahoma F-2
Bauer & Black Co. 91-92 Kansas F-4
Bausch & Lomb Optical Co. 79 St. & Tec. D-4
B & W, Inc. 18, Park Lane F-6
Bean Mfg. Co., John 48 California B-4
Beaumont Iron Works Co. Block 1B E-1
Bethlehem Steel Co. Block 9A A-2
Bethlehem Supply Co. Block 8A A-2
Bettis Corp. Block V-1 C-4
Bettis Rubber Co. 5 Texas Drive B-4
Big Three Welding Equipment Co. 189-190 Oklahoma F-2
Black & Decker Mfg. Co. 38-39 Texas B-4
Black, Sivalls & Bryson, Inc. 39-40-41, 64-65-66 California B-4
Bonney Forge & Tool Works 93-94 Kansas F-4
Boston Woven Hose Co. Block U-1a C-4
Bovaird & Seyfang Mfg. Co. Block 11 A-4
Bovaird Supply Co. Block 1C D-1
Bowser, Inc. 71-72 St. & Tec. D-4
Braden Steel Corp. Block U-2 C-4
Bradford Pipe Cement Lining Co. 282 Oklahoma F-4
Bradford Pipe & Tool Co. 282 Oklahoma F-4
Brance-Krachy Co., Inc. 48-49 Kansas F-4
Brewster Co., Inc. Block 10D A-4
Bridgeport Brass Co. 123-134-135 Kansas F-4
Bristol Co. 15-16 St. & Tec. D-4
Broderick & Bascom Rope Co. Blk. 6B, 7A, 8A E-2
Brodie Co., Ralph N., Inc. 54-55 California B-4
Brown Co. 91-92 Kansas F-4
Brown Instrument Co. 41-42-43 St. & Tec. D-4
Brown Oil Tools, Inc. 22-23 Silver Lane B-3
Brown Well Service of West Texas 22-23 Silver Lane B-3
Bruce-Macbeth Engine Co. Block G-2 D-3
Bryant Heater Co. Block 11 A-4
Buckeye Traction Div. Gar Wood Industries Block 13 B-6
Bucyrus-Erie Co. Block 4C D-2
Buda Co. Block M E-3
Burch Agate Torpedo 81 St. & Tec. D-4
Butler Mfg. Co. 3-4-5-6 Kansas F-4
Byron Jackson Co., Oil Tool Div. 22-23-24-25, 26-27-235 Oklahoma F-3

— C —

Cabot Shops, Inc. Block 1A, 1B E-1
Cal-Fin Co. 25 Kansas F-4
Camco, Inc. 41 Silver Lane B-4
Cameron Iron Works, Inc. 226-227-228 Oklahoma F-3
Canedy-Otto Mfg. Co. 35 Park Lane F-5
Cardwell Mfg. Co., Inc. Block G-1, G-2 E-4
Carnegie-Illinois Steel Corp. 136-148 Oklahoma F-2
Catawissa Valve & Fittings Co. 28-29 Oklahoma F-3
Caterpillar Tractor Co. Block C, E C-2, D-3
Cathodic Servicing Co. 18 Park Lane F-6
Cavins Co. 31 Park Lane F-5
Centaur Division Block R-2 E-4
Century Electric Co. Block 1B E-1
Century Geophysical Corp. 62 St. & Tec. D-4
Century Meter Co. Block 1B E-1
Chain Belt Co. 70-71 Texas B-2
Chapman Valve Mfg. Co. 24-25-26 Texas B-3
Chase Brass & Copper Co. 76-77-78, 79-134-135 Texas B-2
Chemical Process Co. Block L-2 E-2
Chevrolet Motor Div., General Motors Corp. (*)
Chicago Bridge & Iron Co. 85-86 Texas B-2
Chicago Pneumatic Tool Co., Oil Tool Div. 14-15 California B-4
Chicago Rawhide Mfg. Co. 43-44-45-60, 61-62-63 Kansas F-4
Chikuan Co. 52-53 California B-4
Christensen Diamond Products Co. Block 12 A-8
Chromium Plating Co. 42 Kansas F-4

Clark Bros. Co., Inc. 96-100 Texas B-3
Clay & Bailey Mfg. Co. 111-115 Texas B-2
Clow & Sons, James B. 14 Blk. 6B, 7A, 8A E-2
Coast Pipe Line Co. 16
Cochrane Corp. 17
Colorado Fuel & Iron Corp. 131-132
Columbian Steel Tank Co. 33
Combustion Engineering Co. 30
Commercial Shearing & Stamping Co. 74
Compressor Engineering Corp. 31
Connecticut Telephone & Electric Corp. 72
Consolidated Engineering Corp. 75
Continental Oil Co. 96-100
Continental Supply Co. 111-115
Cook Co., Joseph 14
Cook Testing Co., Geo. 76
Cooper-Bessemer Corp. 26-27
Cooper Mfg. Co., B. B. 76
Cooper Mfg. Co., Inc., Peter 76
Corbin Co., P. & F. 76
Cosden Petroleum Corp. 76
Cotton Co., Wm. P. 76
Crane Co. 76
Crane Packing Co. 76
Crawford Co., Inc., Wm. H. 76
Crosby Steam Gage & Valve Co. 76
Crowell & Little 76
Crown Iron Works Co. 76
Crucible Steel Co. of America 76
Cuno Engineering Corp. 76
Curtis Mfg. Co., Jos. 76
Cutler-Hammer, Inc. 76
Cyclone Fence Co. 76

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Dart Union Co. 76
Davis Engineering Corp. 76
Dean Bros. Pump Co. 76
Dearborn Chemical Co. 76
Decker Co., Inc., Alfred 76
Delta Mfg. Co. 76
Denison Engineering Co. 76
Detroit Harvester Co. 76
Detroit Lubricator Co. 76
Dewey Portland Cement Co. 76
Dia-Log Co. 76
Diamond Alkali Co. 76
Diamond Iron Works 76
Dietert Co., Harry W. 76
Dillon Co., John 76
Dixie Oil Tools Co. 76
Dixon Valve & Coupling Co. 76
Dodge Mfg. Corp. 76
Dowell, Inc. 76
Dowmetal Corp. 76
Dravo Corp. 76
Dresser Mfg. Div. 76
Drilling & Service, Inc. 76
Driltex Co. 76
Dunn Co., Wm. 76
Duplex Mills Co. 76
Du Pont, E. I., de Nemours & Co. 76

— E —

Eastern Industries, Inc. 76 Kansas F-4
Eastman Oil Well Survey Co. 44-59 St. & Tec. D-4
Eberhardt-Denver Co. 40 St. & Tec. D-4
Edwards, Inc., Allan 45 California B-4
Edward Valves, Inc. 33-38 St. & Tec. D-4
Electric Hose & Rubber Co. 62 Oklahoma F-2
Elliott Co. 125-126 Oklahoma F-2
Elliott Mfg. Co. Block 3A C-2
Emerol Mfg. Co. 123-124 Oklahoma F-2
Emsco Derrick & Equipment Co. Block 3A C-2
Enardo Mfg. Co. 181 Oklahoma F-3
Engineering & Construction Div. of Koppers Co. 72 Texas B-2
Engineering Laboratories, Inc. Block 104H F-6
Ensign Carburetor Co. 69 Texas B-2
Evans Products Co. Block 3A C-2
Ever-Tite Coupling Co. 56 California B-4

— F —

Failing, George E., Supply Co. Block 10C A-6
Fairbanks Co. 50-51 California B-4
Fairbanks, Morse & Co. (Magneto Sales) 37 Kansas F-4
Fairbanks, Morse & Co. 10-11-12-13 California B-4
Farrel-Birmingham Co., Inc. 191 Oklahoma F-2
Farris Engineering Corp. 32 Silver Lane B-4
Fast's Couplings Dept., Koppers Co. 73-74-75 Texas B-2
Fawick Airflex Co., Inc. 257-258 Oklahoma F-2
Fischer & Porter Co. 25 St. & Tec. D-4
Fisher Governor Co. 76-77-134-135 Texas B-2
Filer Co., Edwin H. 4 Texas Drive B-4
Flex-Rite Valve & Mfg. Co. 11 Texas B-2
Flint Rig Co. 1-2 Kansas F-4
Flint Steel Corp. 20-21 St. & Tec. D-4
Fluid Packed Pump Co. 1-2 California B-4
Fluor Corp., Ltd. 47-48 St. & Tec. D-4
Foote Brothers Gear & Machine Corp. Block G-2 D-3
Formica Insulation Co. 14 Silver Lane B-2
Foster Cathead Co. 12-13 Texas B-2
Four Wheel Drive Auto Co. Block N-2, N-3 E-4
Foxboro Co. 18-19-65 St. & Tec. D-4
Fram Corp. 116-117 Oklahoma F-3
France Packing Co. 72 Texas B-2
Franks Machine Co. Block 104J F-6
Franks Mfg. Corp. Block Z-2 D-5
Frost Geophysical Corp. 161 Oklahoma F-3
Fulton Syphon Div. Robertshaw-Fulton Controls Co. 170 Oklahoma F-3

— G —

Gardner-Denver Co. Blk. 3A, 6B, 7A, 8A E-2
Garlock Packing Co. 58-60 Texas B-2
Gar Wood Industries Block 13 B-6
Garrett Oil Tools 11 Park Lane; 104G F-6
Gaso Pump & Burner Mfg. Co. Block W-2 B-5
Gates Rubber Co. 9-10 Texas B-2
Gatke Corp. 23-24-25 California B-4
Gearench Mfg. Co. Block 3A C-2
Gemco Oil Tools, Inc. 19 Oklahoma F-2
General American Transportation Corp. 1-2 Oklahoma F-2
General Electric Co. 241-242, 243-244 Oklahoma F-2
General Industrial Supply Corp. 29 Silver Lane B-3
General Motors Corp. Block 10A A-3
General Motors Overseas Operations Div. Block 10A A-3
General Paint Corp. 86 St. & Tec. D-4
Geograph Co. 49 St. & Tec. D-4
Geophysical Development Corp. 181 Oklahoma F-3
Geophysical Research Corp. 5 Silver Lane A-2
Geophysical Research Corp. 51 St. & Tec. D-4
Geuder, Paeschke & Frey Co. 30 Silver Lane B-3
Girdler Corp. 132-133 Texas B-2
Glasfloss, Inc. Block 102B F-5
Glass Engineering Lab. 78 St. & Tec. D-4
Glass Fibers, Inc. Block 183A F-4
GMC Truck & Coach Div. Block 10 A-3
Goode Equipment Co., Inc. 5 Texas Drive B-4
Graver Tank & Mfg. Co. 77 Kansas F-4
Great Lakes Steel Corp. Stran Steel Div. Block 107E E-6
Greb X-Ray Co. 24 St. & Tec. D-4
Grove Regulator Co. 36-37 Texas B-3
Guiberson Corp. 217-218, 223-224 Oklahoma F-3
Gulf Publishing Co. 181-182-183 Oklahoma F-2
Gurley, W. & L. E. 214 Oklahoma F-3
Gustin-Bacon Mfg. Co. 26-27 Silver Lane B-3

— J —

Jackson Products 32-33-34-35 Kansas F-4
Jaeger Machine Co. 4-5 California B-4
James, D. O., Mfg. Co. 43-44-45-60, 61-62-63 Kansas F-4
Jarecki Mfg. Co. 87-88 Texas B-2
Jari Products, Inc. 8-6 St. & Tec. D-4
Jensen Bros. Mfg. Co. 21 Kansas F-4
Jerguson Gage & Valve Co. 88 St. & Tec. D-4
J & L Steel Barrel Co. Block 1B E-1
Johnston Oil Field Service Corp., M. O. Block 104F F-6
Jones & Laughlin Supply Co. Block 1B E-1
Johns-Manville 44-45-46-47 Oklahoma F-3
Johnston & Jennings Co. 82-129 Oklahoma F-2
Jones, S. M., Co. 15-16 Oklahoma F-2
Jones, Shelburne & Guffey, Inc. 19 Park Lane F-6
Joyce-Cridland Co. 49-50 Texas B-3
Joy Mfg. Co., Sullivan Div. Block 7B E-2
Justrite Mfg. Co. 17 St. & Tec. D-4

— K —

Keico Products 9 Texas Drive B-4
Kelley, Ben F., Co. 8 Texas Drive B-4
Kem-I-Cal Engineering Lab, Inc. 32 Park Lane F-5
Kerotest Mfg. Co. 89-90-121, 122 Oklahoma F-2
Keuffel & Esser Co. 213 Oklahoma F-3
Kidde, Walter, & Co. 5-6 St. & Tec. D-4
Kisley & Mueller, Inc. 82-83-84-85 Kansas F-4
King Oil Tools 25 Silver Lane B-3
Kinley, Myron, Co. 5 Silver Lane B-2
Kobe, Inc. Block 11 A-4
Koebel Diamond Tool Co. 260 Oklahoma F-4
Koppers Co. 73-74-75 Texas B-2
Korkole Production Engineering Co. 38 Silver Lane B-4
Kropp Forge Co. 43-44-45-60, 61-62-63 Kansas F-4

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Ludlah Co. 7-8-9 Kansas F-4
Laminated Shim Co. 43-44-45-60, 61-62-63 Kansas F-4
Landry, Max E., Inc. Block G-2 D-3
Lane-Wells Co. Block V-3 D-4
Larkin Packer Co. 51-52 Oklahoma F-3
Laughlin Co., Thomas 8 Park Lane F-6
Lauson Co. 20 Park Lane F-6
Le Bus Rotary Tool Works, Inc. 6 Texas Drive B-4
Leeds & Northrup Co. 29-30 St. & Tec. D-4
Le Roi Co. Block R-2 E-4
Leschen, A., & Sons Rope Co. 31-32 Texas B-3
Liggett Supply & Equipment Co. 31 Silver Lane B-4
Lincoln Electric Co. 249-250, 251-252 Oklahoma F-2
Linde Air Products Co. 237-238 Oklahoma F-3
Line Scale Co., Inc. 205-206 Oklahoma F-2
Link-Belt Co. 61-62-63 Texas B-2
Littleford Brothers, Inc. Block 103A F-4
Long, Jon R., Manufacturer Block U-1a C-4
Lovejoy Flexible Coupling Co. 27 California B-4
Loveless Mfg. Co. Block 107G E-6
Lubrikup Co. 184 Oklahoma F-2
Ludlow Valve Mfg. Co. Block 3A C-2
Lufkin Foundry & Machine Co. Block 3C C-2
Lufkin Rule Co. 121-122 Texas B-2
Lunkenheimer Co. 67-68 Oklahoma F-2
Lukens Steel Co. 195 Oklahoma F-3

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McCord Corp. 72-73 Oklahoma F-2
McCullough Tool Co. 17-18 California; W-3 B-4
McDonald Co., B. F. 84 Texas B-3
McGill Mfg. Co. 42-43 California B-4
McKissick Products Corp. 245-246 Oklahoma F-2
McEvoy Co. 21 Park Lane F-6
McNamar Boiler & Tank Co. 1-2 Texas Drive B-4
Madden, P. E., Co. 86 St. & Tec. D-4
Mack-International Motor Truck Corp. Block 104B F-6
Macwhyte (Wire Rope) Co. 130-131 Oklahoma F-2
Magnaflux Corp. 11 Silver Lane A-2
Magneto Ignition Co. 129-130-131 Kansas F-4
Magnus Chemical Co., Inc. 46 Texas B-3
Maloney-Crawford Tank & Mfg. Co. 116-117 Texas B-3
Mall Tool Co. 38 Silver Lane B-4
Manning, Maxwell & Moore, Inc. 230 Oklahoma F-3

National Radiator Co. 64-65 Kansas F-4
National Supply Co. Block 1B E-1
National Supply Export Corp. Block 1B E-1
National Tank Co. Block 1B E-1
National Technical Laboratories 75 St. & Tec. D-4
National Tube Co. 136-148 Oklahoma F-2
Naylor Pipe Co. Block 1B E-1
Neilson Pump Div., Oil Well Supply Co. Block 1B E-1
Nelson Electric Mfg. Co. 168 Oklahoma F-3
New Bedford Cordage Co. Block 1B E-1
New Deal Specialty Co. Block 1B E-1
New Departure Div., General Motors Corp. Block 1B E-1
Nice Ball Bearing Co. 40 St. & Tec. D-4
Niles Steel Products Div., Republic Steel Corp. 102-115 Kansas F-4
Nomads Block 1B E-1
Nordberg Mfg. Co. 24-25 Silver Lane A-2
Nordstrom Valve Co. Div., Rockwell Mfg. Co. 35-36 St. & Tec. D-4
Norma-Hoffman Bearings Corp. 7-8 Texas B-3
Norris, W. C., Manufacturer, Inc Block 1B E-1
Nugent, Wm. W., Co., Inc. 171-172 Oklahoma F-3

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Oakite Products, Inc. 22-23 Texas B-3
O'Bannon, Walter, Co. 104-105 Texas B-3
Ohio Injector Co. 218-220, 231-232 Oklahoma F-3
Ohio Steel Foundry Co. 76-77-78-79, 134-135 Texas B-2
Oil and Gas Journal, The Block 1B E-1
Oil Well Supply Co. Block 1B E-1
Oil Center Tool Co. 11-12 Oklahoma F-2
Okadee Co. 102-103-108 Texas B-3
Oliver United Filters, Inc. Block 1B E-1
Oklahoma Oxygen Co. 189-190 Oklahoma F-3
Oklahoma Rig & Supply Co. 4 Oklahoma F-3
Oklahoma Steel Castings Co., Inc. 47-48 Texas B-2
Olsco Mfg. Co. 11 Park Lane F-5
Onan, D. W., & Sons Block 1B E-1
Orbit Valve Co. 33-34-35 Oklahoma F-3
Ospina-Racines, E. 215 Oklahoma F-3
Oster Mfg. Co. 240 Oklahoma F-3
Otis Engineering Corp. 5-7 Silver Lane B-3
Otis Pressure Control Export, Inc. 5-7 Silver Lane B-3
Owens-Corning Fiberglas Corp. 97-98-119, 120-121-122 Kansas F-4
Owens Tool Co. Block 1B E-1
Ozalid Div., General Anniline & Film Corp. 214 Oklahoma F-3

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Pacific Pumps, Inc. Block 1B E-1
Page Oil Tools, Inc. 13 Silver Lane B-3
Palmer Thermometers Co., Inc. 80-81 St. & Tec. D-4
Pan American World Airways System M-C
Paris, Henry H., Distributor 20-21-22 California B-4
Parkersburg Rig & Reel Co. Block 1B E-1
Patterson-Ballagh Div. Byron Jackson Co. 20-27-235 Oklahoma F-3
Payne Furnace Co. Block 1B E-1
Peerless Mfg. Co. 216 Oklahoma F-3
Perreault Brothers Block 1B E-1
Petro-Chem Development Co. Block 1B E-1
Petroleo Interamericano Block 1B E-1
Petroleum Engineer Block 1B E-1
Petroleum Engineering, Inc. 222 Oklahoma F-3
Petroleum Equipment, Inc. 60 St. & Tec. D-4
Petroleum Equipment Publishing Co., Inc. 84 Oklahoma F-3
Petroleum Publishing Co. Block 1B E-1
Petroleum Solvents Co. Block 1B E-1
Pfaudler Co. 52-53 Kansas F-4
Phillips Petroleum Co. 131-152 Oklahoma F-3
Pipe Couplings, Inc. 90 Texas B-3
Pittsburgh Equitable Meter Div. 32-34-35, 36-37-38 St. & Tec. D-4
Pittsburgh Steel Co. 4-5-6 Texas B-3
Pittsburgh Steel Products 4-5-6 Texas B-3
Pittsburgh Valve & Fittings Corp. 26-27 Silver Lane B-3
Plastilite Engineering Co. 14 Silver Lane B-3
Plomb Tool Co. 23 Park Lane F-5
Plymouth Cordage Products Block 1B E-1
Poole Foundry & Machine Co. 42-43 California B-4
Porter, H. K., Co., Inc. Block 1B E-1
Powell, Wm., Co. 1-3 Texas B-3
Precision Products, Inc. 42-43 Oklahoma F-3
Price, H. C., Co. 203-204, 247-248 Oklahoma F-3
Process Equipment Co. 77 Kansas F-4
Progressive Brass Mfg. Co. 11 Texas B-3
%Proportioneers, Inc.% 220 Oklahoma F-3

National Technical Laboratories	79	Sl. & Tec.	D-4
National Tube Co.	138-140	Oklahoma	F-2
Naylor Pipe Co.		Block 3A	C-2
Nelson Pump Div., Oil Well Supply Co.		Block 1A	F-1
Nelson Electric Mfg. Co.	188	Oklahoma	F-3
New Bedford Cordage Co.		Blk. 6B, 7A, 8A	E-2
New Deal Specialty Co.		Block 107C	D-6
New Departure Div., General Motors Corp.		Block 10A	A-3
Nice Ball Bearing Co.	40	Sl. & Tec.	D-4
Niles Steel Products Div., Republic Steel Corp.	102-113	Kansas	F-4
Nomads		(†)	
Nordberg Mfg. Co.	34-35	Silver Lane	B-3
Nordstrom Valve Co. Div., Rockwell Mfg. Co.	33-36	Sl. & Tec.	D-4
Norma-Hoffman Bearings Corp.	7-8	Texas	B-2
Norris, W. C., Manufacturer, Inc		Block X	C-5
Nugent, Wm. W., Co., Inc.	171-172	Oklahoma	F-3

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Oakite Products, Inc.	22-23	Texas	B-3
O'Bannon, Walter, Co.	194-195	Texas	B-3
Ohio Injector Co.	219-220 231-232	Oklahoma	F-3
Ohio Steel Foundry Co.	75-77-78-79 194-195	Texas	B-2
Oil and Gas Journal, The		Block 5B	D-2
Oil Well Supply Co.		Block 2A	D-2
Oil Center Tool Co.	11-12	Oklahoma	F-2
Okadee Co.	102-103-108	Texas	B-3
Oliver United Filters, Inc.	4	Park Lane	F-6
Oklahoma Oxygen Co.	189-190	Oklahoma	F-2
Oklahoma Rig & Supply Co.	4	Oklahoma	F-2
Oklahoma Steel Castings Co., Inc.	47-48	Texas	B-3
Olsco Mfg. Co.	11	Park Lane	F-6
Oman, D. W., & Sons		Block T-1	C-4
Orbit Valve Co.	33-34-35	Texas	B-3
Ospina-Racines, E.	215	Oklahoma	F-3
Oster Mfg. Co.	248	Oklahoma	F-3
Otis Engineering Corp.	5-7	Silver Lane	B-3
Otis Pressure Control Export, Inc.	6-7	Silver Lane	B-3
Owens-Corning Fiberglas Corp.	97-98-119 120-121-122	Kansas	F-4
Owens Tool Co.		Block 2A	C-2
Oxalid Div., General Aniline & Film Corp.	214	Oklahoma	F-3

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Pacific Pumps, Inc.		Block 11	A-4
Page Oil Tools, Inc.	13	Silver Lane	B-2
Palmer Thermometers Co., Inc.	60-61	Sl. & Tec.	D-4
Pan American World Airways System		M-C-A	B-1
Paris, Henry H., Distributor	20-21-22	California	B-4
Parkersburg Rig & Reel Co.		Block 8	E-2
Patterson-Ballagh Div. Byron Jackson Co.	26-27-235	Oklahoma	F-3
Payne Furnace Co.		Block 11	A-4
Peerless Mfg. Co.	216	Oklahoma	F-3
Perrault Brothers		Block 10EB	F-5
Petro-Chem Development Co.		Block 5A	A-3
Petroleo Interamericano		Block 5B	D-2
Petroleum Engineer		Block 1B	F-1
Petroleum Engineering, Inc.	222	Oklahoma	F-3
Petroleum Equipment, Inc.	80	Sl. & Tec.	D-4
Petroleum Equipment Publishing Co., Inc.	94	Oklahoma	F-3
Petroleum Publishing Co.		Block 5B	D-2
Petroleum Solvents Co.		Block 3A	C-2
Pfaudler Co.	32-33	Kansas	F-4
Phillips Petroleum Co.	151-152	Oklahoma	F-3
Pipe Couplings, Inc.	90	Texas	B-2
Pittsburgh Equitable Meter Div.	33-34-35 36-37-38	Sl. & Tec.	D-4
Pittsburgh Steel Co.	4-5-6	Texas	B-3
Pittsburgh Steel Products	4-5-6	Texas	B-3
Pittsburgh Valve & Fittings Corp.	36-37	Silver Lane	B-4
Plastellite Engineering Co.	14	Silver Lane	B-3
Plomb Tool Co.	23	Park Lane	F-6
Plymouth Cordage Products		Block 2A	D-2
Poole Foundry & Machine Co.	42-43	California	B-4
Porter, H. K., Co., Inc.		Block 5A	D-2
Powell, Wm., Co.	1-3	Texas	B-2
Precision Products, Inc.	42-43	Oklahoma	F-4
Price, H. C., Co.	203-204 247-248	Oklahoma	F-2
Process Equipment Co.	77	Kansas	F-4
Progressive Brass Mfg. Co.	11	Texas	B-2
%Proportioneers, Inc.%	239	Oklahoma	F-3
Sheppard, R. H., Co., Inc.		Block 3A	C-2
Shrimpton Equipment Co.		Block Z-1	D-4
Sight Feed Generator Co.	32-33-34-35	Kansas	F-4
Simplex Co.		Block G-2	D-3
Slaikredi	91-92	Kansas	F-4
Skelly Oil Co.	46-47-58-59	Kansas	F-4
SKF Industries, Inc.	57-58	Texas	B-3
Smith, A. O., Corp.	177-178 179-180	Oklahoma	F-3
Smith Meter Co.	83-84	Sl. & Tec.	D-4
Smith-Morse Decals, Inc.	182	Oklahoma	F-3
Snap-On Tools Corp.	5	Park Lane	F-6
Sonken-Galamba Corp.	17	Park Lane	F-6
Sonner Burner Co.	139-140	Oklahoma	F-3
Southern Gas & Equipment Co.	22	Park Lane	F-6
Southern Mill & Mfg. Co.		Block 105C	E-6
South West Box Co.	19	Kansas	F-4
Spang & Co.	44-45-50-51	California	B-4
Spang-Chalfant Div., National Supply Co.		Block 1D	D-4
Sparkler Mfg. Co.	14	Sl. & Tec.	D-4
Spartan Tool & Service Co.		Block 104B	F-6
Specialty Sales & Service, Inc.	20-22	Kansas	F-4
Square D Co.	88-81	Oklahoma	F-3
Stacey Brothers Gas Construction Co.		Block 11	A-4
Standco Brake Lining Co.		Block 3A	C-2
Steel & Tubes Div., Republic Steel Corp.	102-115	Kansas	F-4
Steel Improvement & Forge Co.	229	Oklahoma	F-3
Stemix Equipment Co.	81-82-83-84 85-86-87	Kansas	F-4
Sterling Machinery Corp.		Block T-2, T-3	C-4
Sterling Packing & Gasket Co.	7	Park Lane	F-6
Stewart & Stevenson Services, Inc.		Block V-3	D-4
Stoody Co.	42	Silver Lane	B-4
Strom Steel Ball Co.	40	Sl. & Tec.	D-4
Struthers Wells Corp.	77	Kansas	F-4
Subsurface Engineering Co.	33	Sl. & Tec.	D-4
Superior Engine Div.		Block 1D, 9A	A-2
Sullivan Div., Joy Mfg. Co.		Block 3A	C-2
Sun Engineering Co.	87	Oklahoma	F-3
Synchro-Start Products Co., Inc.	194	Oklahoma	F-3
Synthane Corp.	74-75	Oklahoma	F-3

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Company—	Building or Block	Grid
Tal Bender, Inc.	236	Oklahoma F-3
Taylor Forge & Pipe Works		Block 9A A-2
Taylor Instrument Companies	31-32-97	Sl. & Tec. D-4
Taylor Winfield Co.	189-190	Oklahoma F-2
Technical Oil Tool Corp.	192-193	Oklahoma F-2
Telemarc Corp.	84	Kansas F-4
Templeton, Kenly & Co.	42-43	Texas B-4
Tennessee Coal, Iron & Railroad Co.	139-140	Oklahoma F-2
Texas Rubber Specialty		Block 3A C-2
Texoma Supply Co.	69-70-71	Oklahoma F-3
Texsteam Corp.	23	Park Lane F-6
Thermoid Co.	38	Silver Lane B-3
Thermoid Rubber Co.		Block 2A F-1
Thew Shovel Co.		(*)
Thompson Pump Co.	132	Oklahoma F-3
Thornhill-Craver Co.	67-68-69 70-71-72	Kansas F-4
Timken Roller Bearing Co.	149-150	Oklahoma F-3
Tool Steel Gear & Pinion Co.	29	Park Lane F-5
Torrington Co.	135-136	Oklahoma F-3
Townsotor Corp.		Block 107A D-6
Trackson Co.		Block C, E B, C-3
Tractor Equipment Div., Gar Wood Industries		Block 13 B-4
Treat-Rite Chemical Co.	36	Kansas F-4
Trefolite Co.	69-70	Sl. & Tec. D-4
Triangle Blue Print & Supply Co.	214	Oklahoma F-3
Trimont Mfg. Co. Div., Astra Industrial Corp.	83	Texas B-3
Trinity Portland Cement Co.	85-86	Oklahoma F-2
Truck Equipment Div., Gar Wood Industries		Block 13 B-4
Truscon Steel Co.	103-115	Kansas F-4
Tubbs Cordage Co.		Block 9A A-2
Tube-Turns, Inc.	135-133	Texas B-3
Tuboscope	30	Park Lane F-5
Tuisa Paper Co.	91-92	Kansas F-4
Tulsa Rig & Reel Mfg. Co.	1-2	Kansas F-4
Tulsa Shock Absorber Co.	17	Silver Lane B-2
Tulsa Tool & Pump Co.	57-58	Texas B-3
Tulsa Tractor & Implement Co.		NE Cor. Grounds A-6
Tulsa Winch Co.		Block 3 C-2
Turney Mfg. & Engineering Co.		Block 103 F-5
Twin Disc Clutch Co.	186-187	Oklahoma F-3
Tyson Bearing Corp.	43-44-45-46 81-82-83	Kansas F-4
Wichita Welding & Mfg. Co.		Block 13 A-6
Winter-Weiss Co.		NE Cor. Grounds A-6
Witte Engine Work Div., Oil Well Supply Co.		Block 2A F-1
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp.	109-110	Oklahoma F-3
Wico Electric Co.	109-110	Texas B-3
Willard Storage Battery Co.	34	California B-4
Williams Brothers Co.	185	Oklahoma F-3
Williams Brothers Corp.	185	Oklahoma F-3
Williams Brothers Overseas Co.	185	Oklahoma F-3
Williams, R. C., & Co.	138	Kansas F-4
Williamson, T. D., Inc.	138	Oklahoma F-3
Wilson Foundry & Machine Co.	38	Oklahoma F-2
Wilson, L. C., Pattern Works	21	Kansas F-4
Wilson Mfg. Co.		Block N-1, R-1 E-4
Wilson Supply Co.	89	Oklahoma F-2
Wilson-Snyder Mfg. Co.		Block 2A F-1
Wilson, Web, Oil Tools, Inc.	197-198	Oklahoma F-2
Wilson Welder & Metals Co., Inc.	34-35	Oklahoma F-3
Wisconsin Motor Corp.		Block 4B D-2
W-K-M Co., Inc.	18-19-20-21	Texas B-3
Woobank Machinery	51-52	Texas B-3
Wood Preserving Div., Koppers Co.	73-74-75	Texas B-2
World Petroleum	2	Park Lane F-6
Worthington Pump & Machinery Corp.		Block L-1 E-3

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Young Engine Corp.	Block A-1	C-3
Young Radiator Co.	Block J-2	E-3
Youngstown Sheet & Tube Co.	Block 6B, 7A, 8A	E-2

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Zink, John, Co.	3-4	Silver Lane	B-3

*Between Hall of Science and exposition offices building.
†Main entrance.

FOR FURTHER INFORMATION

SEE THE ACCOMPANYING ISSUE OF THE JOURNAL (MAY 13 EDITION) FOR DISCUSSION OF THE

Oil Show Exhibits

OF ALL THE FIRMS LISTED IN THIS JOURNAL-Guide

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ducts will be displayed — Keyed to map on opposite page

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Maples, Steve C., & Co.	5-6	St. & Tec.	D-4
Mark Co., Clayton		Blk. 6B, 7A, 8A	E-2
Marley Co.	73	Kansas	F-4
Marlow Pumps	91-92	Kansas	F-4
Marman Products Co., Inc.	8-9	Silver Lane	B-2
Marmon-Herrington Co., Inc.		Block W-1	B-5
Marshall Supply & Equipment Co.	95-96	Kansas	F-4
Martin-Decker Corp.		Block 3A, 4A	C-2
Martin, John N., Manufacturer	41	Oklahoma	F-4
Mason-Neilan Regulator Co.	20	Silver Lane	B-2
Maxim Silencer Co.		Blk. 6B, 7A, 8A	E-2
Mayhew Machine & Supply Co.		Blk. 107B, 107D	D-6
Medhart Co.		Block U-1a	C-4
Meriam Instrument Co.	27	St. & Tec.	D-4
Metal Goods Corp.	194	Oklahoma	F-3
Mid-Continent Airlines, Inc.		Block MCA	B-1
Mid-Continent Petroleum Corp.	19	Kansas	F-4
Mid-Continent Pipe Line Co.	19	Kansas	F-4
Mid-Continent Supply Co.		Block 3A	C-2
Mid-States Gummed Paper Co.	91-92	Kansas	F-4
Mid-West Piping & Supply Co.		Block 1B	E-1
Mid-West Printing Co.	13	St. & Tec.	D-4
Midwest X-Ray Co.	24	St. & Tec.	D-4
Milwaukee Valve Co.	17	Park Lane	F-4
Milwhite Co., Inc.	13	Park Lane	F-4
Miniature Precision Bearings, Inc.	40	St. & Tec.	D-4
Minneapolis-Honeywell Regulator	41-42-43	St. & Tec.	D-4
Minneapolis-Moline Power Implement Co.		Block Z-1	D-4
Mine Safety Appliances Co.	48-49	Oklahoma	F-3
Miracle Adhesives Corp.	5-6	St. & Tec.	D-4
Mission Mfg. Co.	91-92-93		
	118-119-120	Texas	B-3
Mixing Equipment Co.	4-5	California	B-4
Modern Engineering Co.	32-35	Kansas	F-4
Moore, Lee C., Corp.	68-69	Oklahoma	F-3
Moore Co.	8	St. & Tec.	D-4
Moorlane Co.		Block U-3	C-4
Moran Furnace & Sheet Metal Co.		East of Kansas	F-3
Morris Coupling & Clamp Co.	12	Park Lane	F-4
Morrison Brothers Co.	50	California	B-4
Morse Chain Co. Div. Borg-Warner Corp.	15-16	Silver Lane	B-2
Multi-Metal Wire Cloth Co., Inc.	30-31	Kansas	F-4
Murphy Diesel Co.		Block A-2	C-2
Murdock Tank & Mfg. Co.		Block 11A	B-4
Murphy, Frank W., Manufacturer	26	California	B-4
Murray Rubber Co.	10	California	B-4
Murphy Safety Switch Co.	25	California	B-4
Murray Tool & Supply Co.	63-64	California	B-4
Muskogee Iron Works		Block H	D-3

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Nash Engineering Co.	39-40-65-66	Kansas	F-4
Nataco Co.	69-70	St. & Tec.	D-4
National Bank of Tulsa		Block H	D-3
National Carbide Corp.	30	Oklahoma	F-3
National Cylinder Gas Co.	95-96	Oklahoma	F-3
National Foam System, Inc.	38	Kansas	F-4
National Lead Co.	94-95	St. & Tec.	D-4
National Radiator Co.		Kansas	F-4
National Supply Co.		Block 1D	D-1
National Supply Export Corp.		Block 1D	D-1
National Tank Co.		Block S-1, S-2	C-4
National Technical Laboratories	79	St. & Tec.	D-4
National Tube Co.	136-148	Oklahoma	F-3
Naylor Pipe Co.		Block 3A	C-2
Nelson Pump Div., Oil Well Supply Co.		Block 2A	F-1
Nelson Electric Mfg. Co.	188	Oklahoma	F-3
New Bedford Cordage Co.		Blk. 6B, 7A, 8A	E-2
New Deal Specialty Co.		Block 107C	D-6
New Departure Div., General Motors Corp.		Block 10A	A-3
New Process Co.	40	St. & Tec.	D-4
Nicholson, W. H., & Co.	14	Kansas	F-4
Nicholson Universal Pipe Joint Co.	14	Kansas	F-4
Nitrogen Generator Co.	14	Kansas	F-4
Nordstrom Valve Co.	15	Kansas	F-4
Norma-Hoffman Bearings Corp.	42	St. & Tec.	D-4
Northern Blower Co.	14	Kansas	F-4
Northwestern Steel & Wire Co.	14	Kansas	F-4
Norton Co.	14	Kansas	F-4
Nuttall, R. D., Co.	14	Kansas	F-4

Proturo Co.	44-45	Texas	B-3
Purolator Products, Inc.	17-18	Oklahoma	F-3
Pyle-National Co.		Block V-1	C-4
Pyrene Mfg. Co.	39	Oklahoma	F-4

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Quigley Co., Inc.	1-2	St. & Tec.	D-4
Quigley Panel Construction, Inc.	1-2	St. & Tec.	D-4
Quimby Pump Div., H. K. Porter Co., Inc.		Block 5	D-2

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Railway Express Agency, Inc.	23	St. & Tec.	D-4
Ransome Co.	80	St. & Tec.	D-4
Ratigan, J. P., Inc.	212	Oklahoma	F-3
Raybestos-Manhattan, Inc.	6	California	B-4
Rector Well Equipment Co., Inc.	20-21	Oklahoma	F-3
Reda Pump Co.	50-51-54-55	Kansas	F-4
Reed Roller Bit Co.		Block 4A	D-2
Refinery Supply Co.	8-9-10	St. & Tec.	D-4
Regan Forge & Engineering Co.	198-199-200	Oklahoma	F-3
Reilly Tar & Chemical Corp.	251-252-253	St. & Tec.	D-4
Reliance Regulator Corp.	5-6	St. & Tec.	D-4
Republic Steel Corp.	45-46-57-58	Kansas	F-4
Republic Rubber Co.	102-115	Block 1B	E-1
Republic Supply Co.	98-100-101		
	116-117-118	Kansas	F-4
Ridge Tool Co.	28-29-30	Texas	B-3
Rinehart Oil News	37	Oklahoma	F-3
Ritchie, Jim, Co.	18	Park Lane	F-4
Robinson Orifice Fitting Co.	45-46-57-58	St. & Tec.	D-4
Rochester Ropes, Inc.	125	Texas	B-3
Rock Drill Div., LaRoi Co.		Block R-2	E-4
Rockwell Mfg. Co.	33-38	St. & Tec.	D-4
Roller Bearing Co. of America	40	St. & Tec.	D-4
Rollway Bearing Co., Inc.	42-43	California	B-4
Rolo Mfg. Co.		Block V-2	C-4
Roots-Connersville Blower Corp.		Block 11	A-4
Roper, George D.		Blk. 4B, 6B, 7A, 8A	E-2
Ross-Martin Co.	13	St. & Tec.	D-4
Roy Co., Milton	23-24	Kansas	F-4
Rubber Sleeve Specialty Co.	183	Oklahoma	F-3
Ruska Instrument Corp.	95	St. & Tec.	D-4

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St. Louis Cordage Mills	89	Texas	B-3
St. Paul Hydraulic Div., Gar Wood Industries	94	Block 13	B-4
Sapulpa Tank Co.	22	Park Lane	F-3
Sargent, E. H., & Co.		St. & Tec.	D-4
Sargent Engineering Co.		Block 9A	A-2
Schlumberger Well Surveying Corp.	66-67-68	St. & Tec.	D-4
Schramm, Inc.	9-10	Texas	B-2
Scintilla Magneto Div., Bendix Aviation Corp.	9-10	Oklahoma	F-2
Scott-Rice Co.	7-8	Oklahoma	F-2
Sealmaster Bearing Div., Stephens-Adamson Mfg. Co.	40	St. & Tec.	D-4
Security Engineering Co., Inc.		Block 11	A-4
Seismograph Service Corp.	75-76	St. & Tec.	D-4
Seismograph Service, Ltd.	75-76	St. & Tec.	D-4
Service Engineers, Inc.	14	Silver Lane	B-2
Shaffer Tool Works	1-2	Oklahoma	F-2
Shell Oil Co., Inc.	99	St. & Tec.	D-4
Sheppard, R. H., Co., Inc.		Block 3A	C-2
Shrimpton Equipment Co.		Block Z-1	D-4
Sight Feed Generator Co.	32-33-34-35	Kansas	F-4
Simplex Co.		Block G-2	D-3
Sisalkraft	91-92	Kansas	F-4
Skelly Oil Co.	46-47-58-59	Kansas	F-4
SKF Industries, Inc.	57-58	Texas	B-2
Smith, A. O., Corp.	177-178		
	179-180	Oklahoma	F-3
Smith Meter Co.	83-84	St. & Tec.	D-4
Smith-Morse Decals, Inc.	183	Oklahoma	F-3
Smith Tool Co.	31	Kansas	F-4
Snyder Corp.	26	Kansas	F-4
Solar Aircraft Co.	85	Kansas	F-4
Southern Ropes, Inc.	125	Texas	B-3
Southwestern Engineering Co.	14	Kansas	F-4
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Spencer Gear Co.	14	Kansas	F-4
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Spirax Sarco, Inc.	14	Kansas	F-4
Spraying Systems Co.	14	Kansas	F-4
Stanolind Oil & Gas Co.	14	Kansas	F-4
Stanolind Pipe Line Co.	14	Kansas	F-4
Stanolind Producing Co.	14	Kansas	F-4
Stanolind Refining Co.	14	Kansas	F-4
Stanolind Royalty Co.	14	Kansas	F-4
Stanolind Transportation Co.	14	Kansas	F-4
Stanolind Well Surveying Co.	14	Kansas	F-4
Stanolind Wyoming Co.	14	Kansas	F-4
Stanolind Oil & Gas Co.	14	Kansas	F-4
Stanolind Pipe Line Co.	14	Kansas	F-4
Stanolind Producing Co.	14	Kansas	F-4
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Stanolind Royalty Co.	14	Kansas	F-4
Stanolind Transportation Co.	14	Kansas	F-4
Stanolind Well Surveying Co.	14	Kansas	F-4
Stanolind Wyoming Co.	14	Kansas	F-4

— U —

Union Carbide & Carbon Corp.	227-228	Oklahoma	F-3
Union Chain & Mfg. Co.	37-38	California	B-4
Union Drawn Steel Div., Republic Steel Corp.	102-115	Kansas	F-4
Union Tank & Supply Co.		Block H-1	D-3
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United States Steel Supply Co.	136-148	Oklahoma	F-3
United Supply & Mfg. Co.	28-29	California	B-4
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Westcott & Greis, Inc.	45-46-57-58	St. & Tec.	D-4
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Western Supply Co.		Block 103B	E-4
Western Union		(†)	
Westinghouse Air Brake Co.	2	Park Lane	F-4
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Wheatley, Frank, Pump & Valve Manufacturer		Block T-2, T-3	C-4
Wheeling Corrugating Co.	5-6	St. & Tec.	D-4
Wheeling Machine Products Co.	32-33	California	B-4
Wheeling Steel Corp.	27	Kansas	F-4
Wheland Co.		Block 1B	E-1
Whitlock Cordage Co.		Block 1B	E-1
Whitney Chain & Mfg. Co.	74-75	Kansas	F-4
Wichita Welding & Mfg. Co.		Block 12	A-4
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Witte Engine Work Div., Oil Well Supply Co.		Block 2A	F-1
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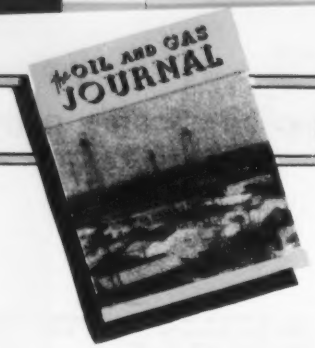
Wilson Welding Co.	31	Kansas	F-4
Wilson, Walter, Co.	31	Kansas	F-4
Wilson Welding Co.	31	Kansas	F-4
Wilson Welding Co.	31	Kansas	F-4
Wilson Welding



Journal-Guide to the INTERNATIONAL

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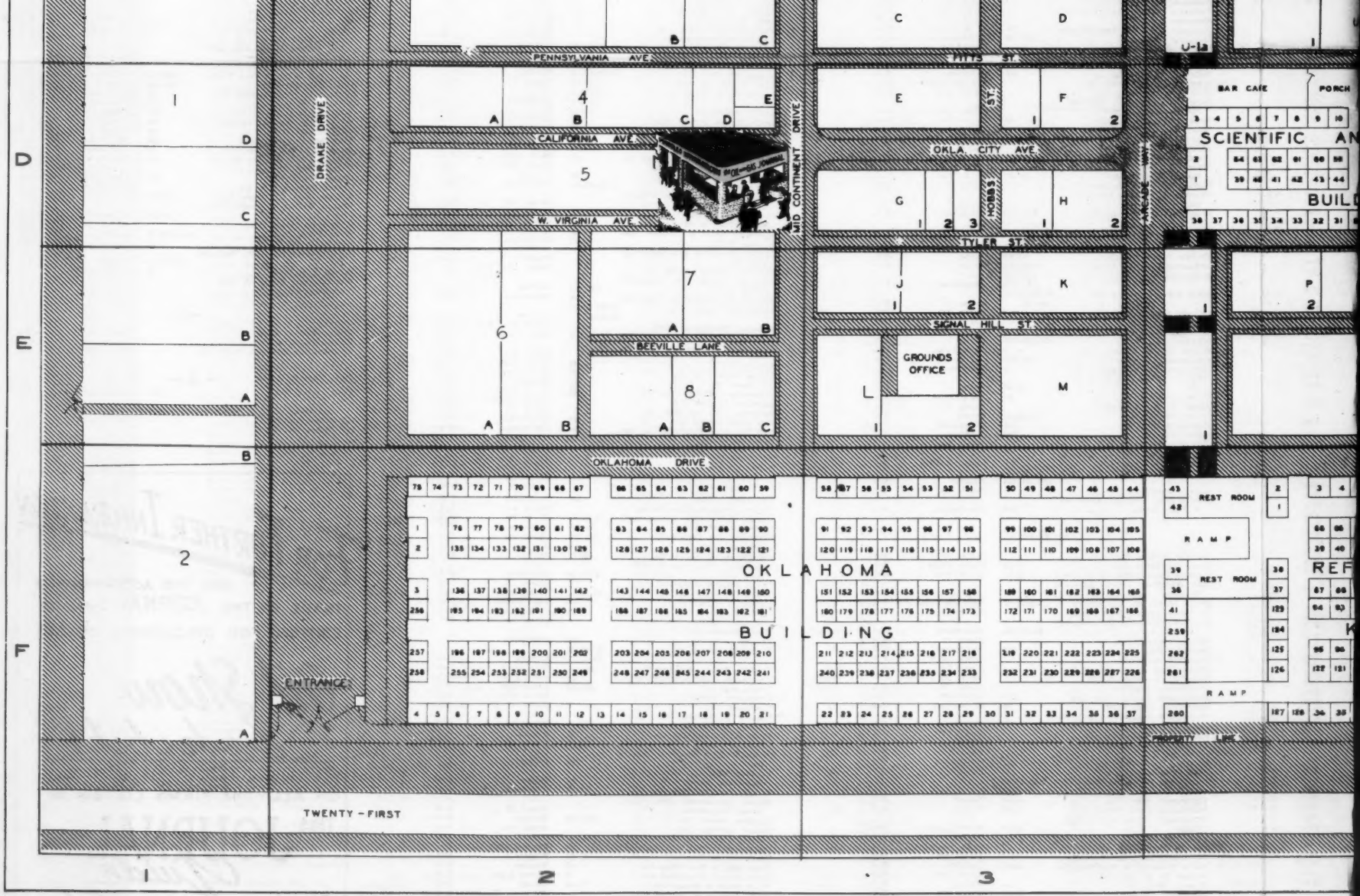
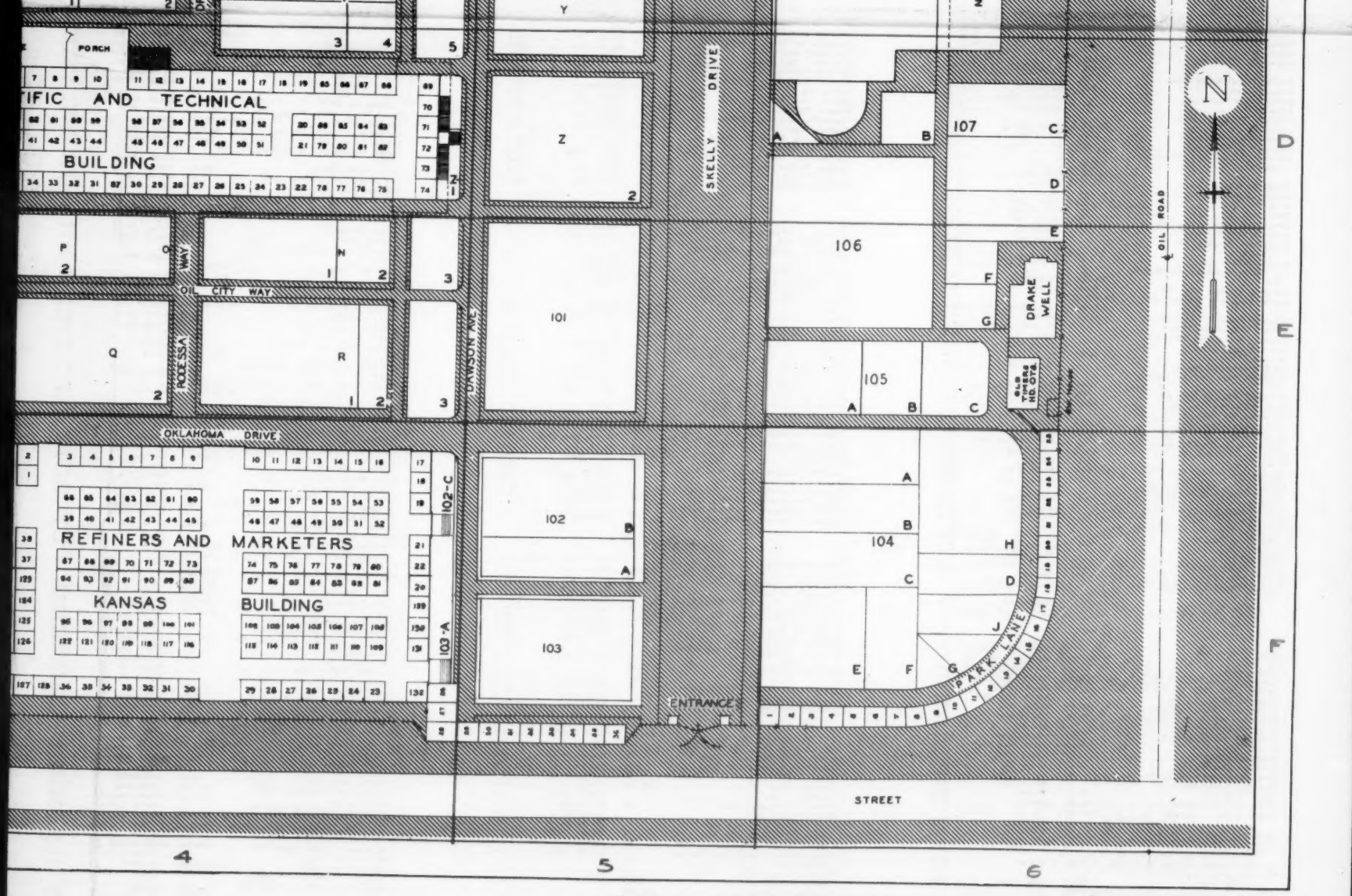


THE OIL AND GAS JOURNAL.....

Your Information Center . . . . in the Industry . . . . at th



at the "Oil Show"

Supplement to the Oil and Gas Journal
Issue of May 13, 1948
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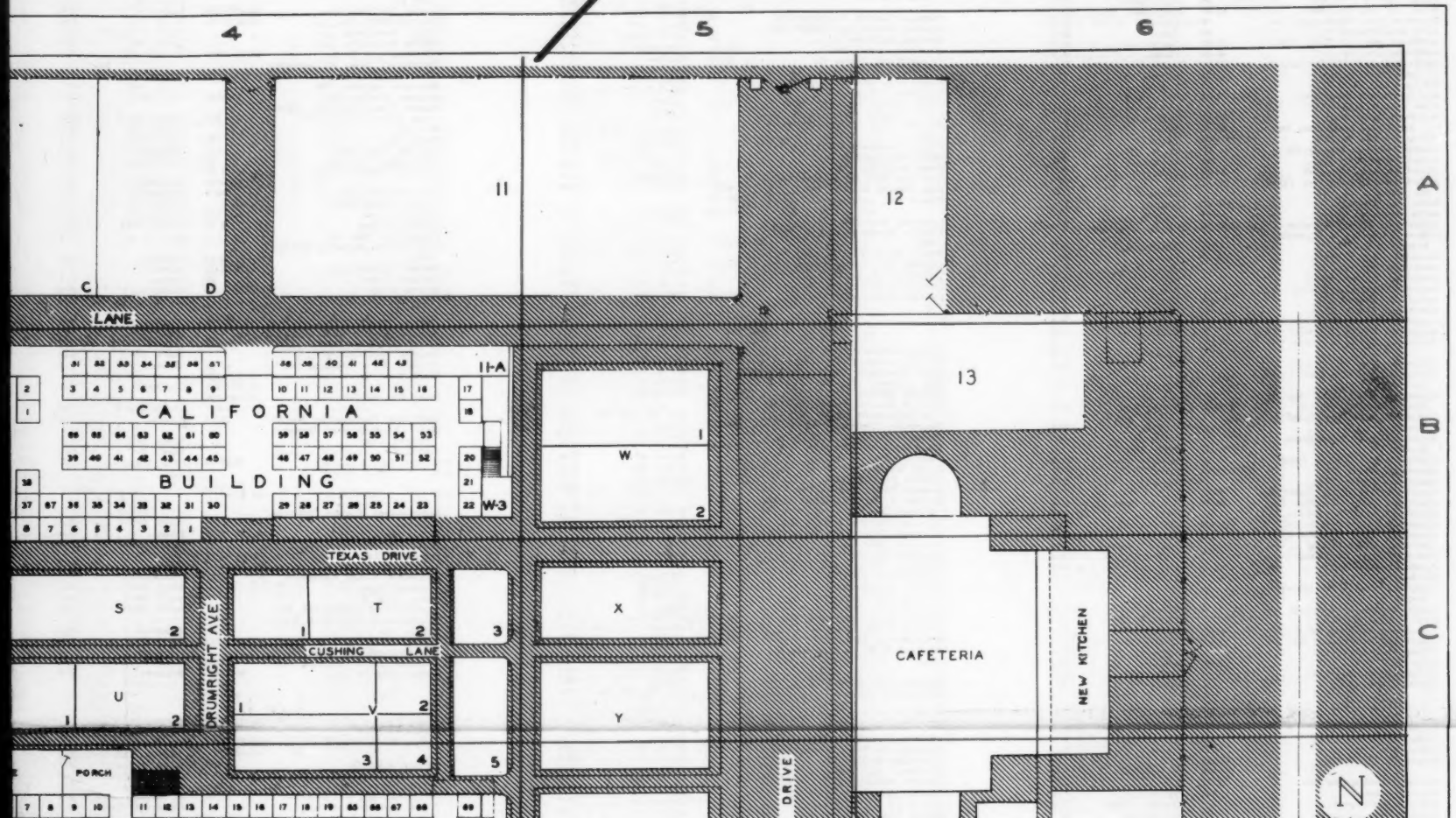
The Petroleum Publishing Company
Tulsa, Oklahoma

For your convenience . . .
List of exhibitors on reverse side

AL PETROLEUM *exposition*



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an evening reception and a banquet.

International delegates and oil men from abroad will be under the special care of the five Nomads chapters which are cooperating to maintain an "International House" on the exposition grounds and to provide special functions for these visitors.

The exhibitors themselves, the men who actually own the I.P.E., will get together for a breakfast May 17 to lay plans for the next exposition and transact other business.

Tulsa civic organizations are cooperating fully. The Chamber of Commerce and the Junior Chamber of Commerce will give lunches for international delegates and those participating in the 3-day International Petroleum Congress. The chamber also has delegated committees of 30 men each day of the show to serve as assistant hosts. They will be stationed at various points in the exposition grounds, with prominent badges, to guide visitors and assist them in any way possible.

Other civic clubs holding meetings during the exposition are turning their programs over to the visitors, and invite the attendance of members from other cities.

Nor is recreation being neglected. Southern Hills Country Club is sponsoring an invitation golf tournament for oil-show visitors May 17, 18, and 19, and Tulsa Country Club is turning its course over to all men connected with the oil industry for a blind bogey golf tournament May 21.

Industry's Top Movies to Be Shown

CONTINUOUS movies in the Hall of Science projection room will tell the story of the oil industry to visitors to the International Petroleum Exposition every day and evening.

From several hundred industrial films offered by oil companies and others, the committee in charge of the Hall of Science educational exhibits chose nearly 50 of the most entertaining and instructive for showing in rotation on a daily program.

Both technical and popular "shorts," in sound, color, and animated drawings, picture every phase of the oil industry throughout the world, and also show some of the interesting regions where oil men work and some of the unusual uses of petroleum products.

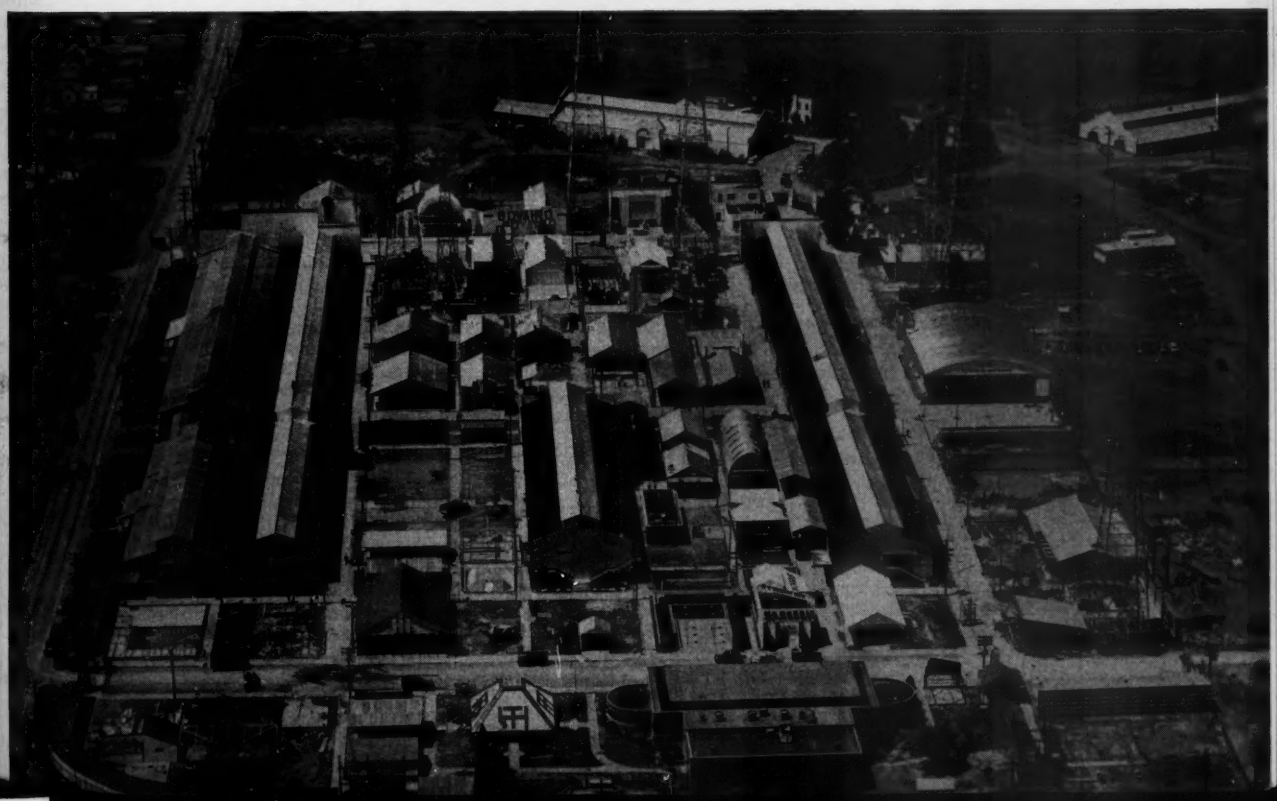
The Mexican, British, and United States Governments have loaned films for this showing, and others have been supplied by companies outside as well as within the oil industry.

Technical and educational films will predominate in the day-time showings, running from 11:00 a.m. to 6:00 p.m. daily, while every evening from 7:30 to 9:30 the program will feature more popular shorts such as travelogues, documentary films, and a few outstanding war pictures touching on oil. Many of the films will be shown every day while others will be shown only at special times. A schedule of the films selected for showing each day will be posted in the Hall of Science and at other places on the exposition grounds.

Among the pictures selected for showing are: Where Mileage Begins, Frontiers of the Future, and To New Horizons, by General Motors Corp.; Oil for Tomorrow, by the Interstate Oil Compact Commission; New Frontier, by Arabian-American Oil Corp.; American Success Story, by Goodyear Tire & Rubber Co.; Lubrication, and Oklahoma and Its Natural Resources, by the U. S. Bureau of Mines; Evolution of the Oil Industry, and Ten Thousand Feet Deep, by the University of Oklahoma.

Also selected are Deep Horizons, Master of Molecules, and Tanker, by The Texas Co.; Mountain Building, by the Encyclopedia Britannica; Exploration, and Production, by Shell Oil Co.; The Story of Oil, by Coca-Cola Bottling Co.; Gasoline for Everybody, and The Long Road, by Ethyl Corp.; Oil from the Earth, by the British Consulate; Undersea Search for Oil, by Magnolia Petroleum Co.; and several special features loaned by the Mexican Government and the U. S. Navy.

General aerial view of exposition grounds, looking west



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HALL OF SCIENCE

Features "World of Oil in Miniature"

POSTWAR technological developments for finding and producing more oil, refining and distributing better products, illustrated in more than 100 displays contributed by industry and government agencies, arranged to interest laymen and technicians alike.

THE world of oil in miniature is the theme of the coordinated displays in the Hall of Science for the 1948 International Petroleum Exposition.

Each of the more than 100 individual exhibits, combed from the offerings of oil and equipment companies, universities, and government agencies, fits into a predetermined pattern to show the visitor every important step in the discovery, production, transportation, refining, and marketing of petroleum and its products.

For weeks a special committee has been at work to make the Hall of Science not just an aggregation of models but a visual short course in petroleum technology, interesting and informative to laymen and technician alike. Subcommittees of experts in their fields chose and arranged the sections on geology, geophysics, development and engineering, production, refining, transportation, and marketing.

Placards, animated models, and lighted displays permit him who runs to read the petroleum story at a glance, while the scientifically inclined may linger over the most recently developed instruments for finding and recovering oil.

The list of cooperating companies and agencies is almost as long as the list of displays, and the contribution of each is acknowledged in the explanatory legends on the exhibits.

In the beginning is the world, pictured on a huge mural which the geologists have mapped to show areas most likely to yield oil, and a three-dimensional world map shows by means of plastic cutouts the known crude reserves of each country.

How oil structures look from the air is shown in a collection of aerial photographs, including the newest technique—three-dimensional aerial photographs on a flat sheet which, viewed through special polaroid glasses, reveal elevations in such detail as to permit contour mapping directly from the photograph.

Working Model of Salt Dome

The geologists then figuratively take the visitor underground by means of several typical oil fields, and pictures and slide projectors showing the development of those fields. A very interesting working model shows salt domes grow and expand in soft sediments along the Gulf Coast.

An elaborate plastic model illustrates how several directed holes were drilled from a single marine platform in the Gulf to exploit a large area, together with the formations tapped by each of the slanted holes.

Next in order are a display of typical well cores; fluoroscopes through which the visitor may examine samples of drilling mud, cores, cuttings, and oils; and a collection of fossils to show how geologists identify the rock strata through which the drills pass. The important oil horizons of the United States are exhibited and identified in this display.

The next step in exploration is the work of the geophysicist, and this section of the Hall of Science demonstrates the principles and exhibits many of the actual instruments used in seismic, magnetic, gravity, and survey work.

The fundamental process of transmission of seismic waves in the earth is shown by a short animated film of the process of drilling the shot hole, detonating the charge, transmission of the acoustical waves, and reception of these vibrations to form a seismic record. A companion exhibit is a rather large display illustrating a geological cross-section in which the progress of the acoustical waves is represented by tiny electric lights.

The very high sensitivity to vibrations of the seismic recording apparatus is strikingly illustrated in a display in which conventional instruments record the vibrations caused by dropping grains of sand.

In addition there are seismograph instruments in cutaway form and in operating condition, and photographic displays of these instruments in use in actual field operations.

New developments in deep-water seismic exploration, so important to current offshore oil development, are typified in a model showing the types of boats and equipment required and their disposition on the surface of the water, and also the actual instruments used in offshore work.

Gravimetric methods are illustrated by a group of displays showing the instruments and the principles on which they operate. A model gravity meter indicates the gravitational attraction of rocks of different densities.

A typical geological structure is shown in cross-section with a model

gravity meter moving across it and recording the differences in the force of gravity at different points.

The largest piece of apparatus in the Hall of Science is a 3,600-lb. diving bell used to send an operator with a gravity meter to the bottom of the ocean in offshore work.

To demonstrate magnetic geophysical operations an exhibit illustrating the magnetic effect of different types of rocks shows how the magnetometer is used in prospecting. A model magnetometer passes over a typical geological structure and records its readings on a chart. There is also a display of magnetometer instruments.

The fabulous airborne magnetometer—flying doodle bug to the layman—is in operation, set up to respond to a varying magnetic field. Completing this display is an exhibit of Shoran instruments by means of which the pilot flying the airborne magnetometer determines his positions over land or water.

Latest developments in surveying form another interesting part of this section, showing, for example, how an automobile can drive across country carrying instruments which make a complete map as it goes.

A complete radar set is in operation and visitors in a dark room may view the Tulsa skyline as well as getting a demonstration of the use of radar in surveying in petroleum field operations. Another type of radio surveying equipment illustrates by means of an operating model the Raydist system of position location, an extremely accurate and important type of geophysical surveying equipment.

Photographic Surveying

The photographic method of surveying is demonstrated, and there is also electronic apparatus used in communication, teletype, short-wave radio, and facsimile transmission, and the new art of gamma ray logging of natural radioactivity of various rocks.

The group of displays showing development and engineering of an oil field includes models of cable-tool rigs and rotary rigs, a glass model showing the action of drill pipe in a well, a display of rotary drilling bits, and a demonstration of samples of drilling muds.

This section of the educational series is very complete and was made possible by the cooperation of a score of equipment and well-servicing companies. For example, the art of directional drilling is demonstrated by a transparent model, there are gyroscopic well-surveying instruments, an animated gamma ray logging instrument and chart, neutron-logging equipment, electric-logging instruments, and ultraviolet-logging devices, the latter with a viewing box by means of which the visitor may see the action of ultraviolet light.

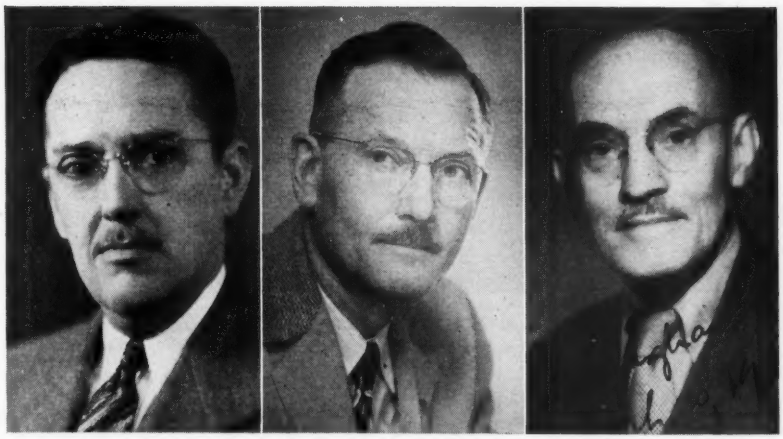
Another coordinated group of the exhibits of several companies demonstrates the steps taken in completing an oil well. There is an electrically activated model of cementing a well, a cutaway model of a well section showing how a bullet penetrates the casing in an oil-bearing formation, and an electrical mechanism illustrating selective acidizing process. Scale models and samples of the actual machinery showing various methods of pumping oil from deep and shallow wells, a well dynamometer in operation, a machine for fatigue-testing of sucker rods, and illustrations of the effects of corrosive fluids found in oil wells.

From the U. S. Department of Mines there are animated models and graphic illustrations of what happens within an oil reservoir in the course of production, showing methods of bottom-hole sampling, gas pressuring, water flooding, and the importance of proper reservoir control. This series of displays is designed to show how gas and oil move through the natural formations. One of these shows water and air being forced through typical well cores, and plastic reproductions of limestone and sandstone demonstrate the relationship between porosity and permeability.

The visitor then passes on to the refinery display which the committee in charge says is one of the most complete ever assembled. Again a dozen or more companies have loaned models for this exhibit, including a layout of a typical refinery area, the various processes through which crude oil passes in becoming finished products, the principles of the more important catalytic cracking methods, the chief processes in manufacture of lubricating oil, and similar highlights of the refining branch of the industry.

Synthetic rubber will be made before the visitor's eyes by a demonstrator at one of the booths, and there are interesting exhibits of latex manufacture, synthetic rubber, and various other chemicals produced from petroleum.

In the concluding sections of the visitor's tour he sees illustrated in models and pictures the ways by which petroleum products are transported and marketed—pipe lines, pumping stations, tankers, tank cars, tank trucks, bulk terminals, filling stations, and equipment for handling liquefied petroleum gas. One of the most interesting parts of this section is a large working model of the "sky hook" or aerial tramway by which tankers and other vessels may be loaded offshore where no harbors are available.



The Hall of Science exhibits were selected and arranged by a large committee of oil-industry scientists headed by these three men: Dr. B. B. Weatherby, president of Geophysical Research Corp., chairman of the I.P.E. Scientific and Technical Committee; Kent K. Kimball, consulting geologist, executive secretary of the committee; Dr. Gustav Egloff, Universal Oil Products Co., consultant to the committee

Oil Scientists Have Own Headquarters at I.P.E.

PETROLEUM technologists and scientific and professional men connected with the oil industry will make their headquarters in the Hall of Science during the International Petroleum Exposition.

Here the Engineers Club of Tulsa, in conjunction with eight other professional and scientific groups, will maintain a registration center and information booth where visiting scientists may obtain housing and travel information, locate friends attending the exposition, and exchange messages.

Each person registering will receive a colored badge identifying him as a member of the scientific group and carrying the telephone number of the message center, 9-6311, Hall of Science branch.

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ALF G. HEGGEM
Vice president

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EXECUTIVE COMMITTEE

of the

INTERNATIONAL PETROLEUM EXPOSITION

MAY 15-22 — TULSA

E. F. BULLARD
Director

— Schedule of Events —

SATURDAY, MAY 15
American Petroleum Institute Day
Engineering Students Day

Hosts for the Day: W. G. Skelly and P. H. Bohart, cochairmen, and committee.

Directors of the Day: W. M. Bovaird, E. F. Bullard, C. H. Pape, E. B. Reeser, W. G. Skelly, Earl Sneed, Hugh Stalcup, G. A. Tompson, Jay P. Walker, M. F. Waters, H. C. Weiss.

9:30 a.m. Exposition gates open.

9:45 a.m. Band concert by University of Tulsa Band, in front of Texas Building, Drake Drive.

10:00 a.m. Formal opening ceremonies: T. P. (Putty) Gilmer, Public Service Co. of Oklahoma, master of ceremonies. Principal speakers: Hon. Roy J. Lundy, mayor of Tulsa; W. G. Skelly, president, International Petroleum Exposition and Congress; Hon. Roy J. Turner, governor of Oklahoma; Hon. J. A. Krug, secretary of the Interior; W. R. Boyd, Jr., president of the American Petroleum Institute; Dr. Jose Martorano Battisti, president of the Venezuelan Petroleum Bureau; Clark Hungerford, president of the Frisco Railroad. Speaker's stand atop the Nomads International Headquarters Building at Drake Drive and Silver Lane, northwest corner exposition grounds.

11:00 a.m. Hall of Science opens.

11:00 a.m. Registration of international delegates, Nomads Building.

11:00 a.m. Registration of petroleum engineers, technologists, scientists, and research men, Hall of Science.

11:00 a.m. Registration of Pioneers in Petroleum, Drake well replica.

11:00 a.m. Registration of press, radio, film, photographic, and public-relations representatives, I.P.E. press room, Technical Building.

11:00 a.m. Drillin' Inn restaurant and cafeteria opens, food and beverages served continuously until 9:30 p.m.

11:30 a.m. Film Center opens, Hall of Science; the story of oil and the industry on the screen in sound and color continuously until 6:00 p.m.

7:30 p.m. Special presentation of petroleum and allied industrial films in Hall of Science Film Center until 9:30 p.m.

9:30 p.m. Exposition gates close.

SUNDAY, MAY 16
Independent Petroleum Association of America Day
Engineering Students Day

Hosts for the Day: Frank J. Hinderliter and Mark S. Patton, cochairmen, and committee.

Directors of the Day: Ralph B. Pringle, F. O. Prior, Paul M. Raigorodsky, C. F. Roeser, Harry H. Rogers, Ed. H. Salrin,

EVERY DAY

Except for the opening day, when the gates open early and all morning events are postponed 30 minutes to provide for the opening ceremonies, a regular schedule is maintained every day. This is not repeated in this program which lists only the special events each day. The regular daily schedule is:

10:30 a.m. Exposition gates open.
10:30 a.m. Hall of Science opens.
10:30 a.m. Registration of international delegates, Nomads Building.
10:30 a.m. Registration of petroleum engineers, technologists, scientists, and research men, Hall of Science.
10:30 a.m. Registration of Pioneers in Petroleum, Drake well replica.
10:30 a.m. Registration of press, radio, film, photographic, and public relations representatives, I.P.E. press room, Technical Building.
10:30 a.m. Drillin' Inn restaurant and cafeteria opens, food and beverages served continuously until 9:30 p.m.
11:00 a.m. Film Center opens, Hall of Science; the story of oil and the industry on the screen in sound and color continuously until 6:00 p.m.
7:30 p.m. Special presentation of petroleum and allied industrial films in Hall of Science Film Center until 9:30 p.m.
9:30 p.m. Exposition gates close.

J. H. Satterwhite, W. A. Schlueter, J. L. Shakely, R. C. Sharp, H. F. Worley.
10:30 a.m. Exposition gates open.

MONDAY, MAY 17

Armed Services Day

Petroleum Engineers Day

Hosts for the Day: Alf. G. Heggem and Howard L. Berkey, cochairmen, and committee.
Directors of the Day: Warner Lewis, W. J. Morris, E. J. Nicklos, A. O. Olson, George Parker, F. B. Parriott, A. W. Peake, Henry L. Phillips, Waite Phillips, Warren C. Platt, C. A. Prichard.
8:30 a.m. Exhibitors' Breakfast at Drillin' Inn. All exhibitors are invited to have a representative present. William B. Way, general manager of the International Petroleum Exposition and Congress, will be host and the meal is "on the house."
9:00 a.m. International Petroleum Exposition invitation golf tournament opens at Southern Hills Country Club, 61st Street and Lewis Avenue.
10:30 a.m. Exposition gates open.
12:00 m. Kiwanis Club regular weekly luncheon, Hotel Tulsa; visiting Kiwanians invited.

TUESDAY, MAY 18

Purchasing Agents Day

Interstate Oil Compact Commission Day

Association of Petroleum Writers Day

Hosts for the Day: C. H. Pape and W. L. James, cochairmen, and committee.
Directors of the Day: W. L. Love, D. G. Mann, John E. Mabee, Clarel B. Mapes, O. E. McClatchey, R. Otis McClintock, E. B. McFarlin, Joseph R. McGraw, D. F. McMahon, Ed H. Moore, William D. Moorer.
9:00 a.m. Invitation golf tournament, Southern Hills Country Club.
9:30 a.m. Executive committee, Petroleum Section, National Safety Council, and continuing all day, mezzanine floor, Hotel Tulsa.
10:00 a.m. Opening session, International Petroleum Congress, South Auditorium, Central High School. Speakers: Carlos R. Vegh Garzon, president, South American Petroleum Institute; Harold B. Fell, vice president, Independent Petroleum Association of America; open forum.
10:30 a.m. Exposition gates open.
12:00 m. Junior Chamber of Commerce luncheon for those participating in the International Petroleum Congress and Forum, Chamber of Commerce Dining Room.
2:00 p.m. International Petroleum Congress, South Auditorium, Central High School. Speaker: Howard E. Felt, vice president, Warren Petroleum Corp.; open forum.
4:30 p.m. Invitation reception to visiting purchasing agents by Purchasing Agents Association of Tulsa, eighth floor lounge, Tulsa Club.
6:00 p.m. Purchasing agents' dinner, Chamber of Commerce dining room.

WEDNESDAY, MAY 19

International Delegates Day

Petroleum Motor Transport Day

Mid-Continent Oil and Gas Association Day

Drilling Contractors Day

Hosts for the Day: W. M. Bovaird and R. W. McDowell, cochairmen, and committee.
Directors of the Day: Rush Greenslade, L. S. Gregory, S. A. Guiberson, Jr.; P. D. Hayes, Alf G. Heggem, J. H. Hill, Frank J. Hinderliter, D. E. Horrigan, W. L. James, Roy B. Jones, A. J. Kerr.
9:00 a.m. Invitation golf tournament, Southern Hills Country Club.
10:00 a.m. Parade of motorized oil-industry equipment from downtown Tulsa to exposition grounds.
10:30 a.m. Exposition gates open.
12:00 m. Rotary Club, regular weekly luncheon, Hotel Tulsa; speaker: Dr. Gustav Egloff of Universal Oil Products Co.; visiting Rotarians invited.
12:00 m. Cooperative Club, regular weekly luncheon, Chamber of Commerce dining room; speaker: Clay Shaw, managing director of International Trade Mart, New Orleans.
1:30 p.m. Style show and bridge party for ladies attending the exposition, Philbrook Art Gallery. For reservations phone 6-4269 or 5-42076.
2:15 p.m. American Association of Safety Engineers conference, Junior Ballroom, Hotel Tulsa.
6:30 p.m. Dinner for international delegates to I.P.E., Tulsa Club.
7:00 p.m. American Association of Safety Engineers' banquet, Hotel Tulsa, honoring Elijah B. Whatley, Barnsdall Oil Co. employe who saved the life of a fellow worker in a fall from a derrick.

THURSDAY, MAY 20

Oklahoma State Legislators Day

Nomads Day

Pipe Liners Day

Hosts for the Day: H. R. Powers and J. R. McWilliams, cochairmen, and committee.
Directors of the Day: E. R. Filley, J. P. Flanagan, Walter Fleming, C. W. Flint, Jacob France, Wirt Franklin, J. R. Freeman, V. C. Fuller, J. H. Gardner, J. Burr Gibbons, P. C. Lauinger.
8:00 a.m. Truck drivers' Roadeo and safe-driving contest, open space east of cafeteria. Continues all day.
9:00 a.m. Invitation golf tournament, Southern Hills Country Club.
10:00 a.m. International Petroleum Congress, South Auditorium, Central High School. Speakers: Hon. N. E. Tanner, Administrator of Lands and Mines, Edmonton, Alta.; Den A. McGee, vice president, Kerr-McGee Industries, Inc.; open forum.
10:30 a.m. Exposition gates open.
11:45 a.m. Chamber of Commerce public affairs forum, Chamber of Commerce Building. Foreign visitors to the exposition will participate.
12:00 m. Cosmopolitan Club, regular weekly luncheon, Hotel Tulsa.
2:00 p.m. International Petroleum Congress, South Auditorium, Central High School. Speakers: George L. Crain, Interstate Pipe Line Co., and J. F. Bayhi and S. P. Ewing, Carter Oil Co.; open forum.
5:00 p.m. Awards to winners of truck drivers' Roadeo and safe-driving contest, east of exposition grounds.
5:30 p.m. Nomads reception, Tulsa Club, for visiting Nomads and their guests.

FRIDAY, MAY 21

Pioneers in Petroleum Day

Oil Industry Publications Day

Refiners Day

Hosts for the Day: W. L. Connelly and J. A. LaFortune, cochairmen, and committee.
Directors of the Day: H. W. Camp, Wm. L. Connelly, E. A. Cook, H. M. Cosgrove, R. E. Day, R. O. Dietler, C. P. Dimit, Ray L. Dudley, Dr. Gustav Egloff, Harold B. Fell, C. E. Jones.
9:00 Blind bogey golf tournament for all connected with the oil industry, Tulsa Country Club. Continues all day.
9:00 a.m. Invitation golf tournament finals, Southern Hills Country Club.
10:00 a.m. International Petroleum Congress, North Auditorium, Central High School. Speakers: Sr. Antonio Bermudez, director of Petroleos Mexicanos; Dr. Gustav Egloff, Universal Oil Products Co.; open forum.
10:30 a.m. Exposition gates open.
12:00 m. Lions Club, regular weekly luncheon, Hotel Tulsa, honoring international delegates. Visiting Lions invited.
2:00 p.m. International Petroleum Congress, South Auditorium, Central High School. Speaker: G. H. Westby, Seismograph Service Corp. Dr. B. B. Weatherby, chairman, I.P.E. scientific and technical committee, will lead a general forum discussion on "What's Ahead for the Industry."
3:00 p.m. Ceremony dedicated to pioneers, Drake well replica.
4:00 p.m. Award of medals to Pioneers of Petroleum, Drake well replica.
7:00 p.m. Missouri School of Mines reunion for alumni attending I.P.E., clubhouse of Veterans of Foreign Wars.

SATURDAY, MAY 22

Petroleum Marketers Day

Engineering Students Day

Hosts for the Day: E. F. Bullard and J. H. Brooks, cochairmen, and committee.
Directors of the Day: Clyde Alexander, Frank R. Billingslea, A. F. Bourne, A. E. Bradshaw, M. F. Bridges, J. H. Brooks, D. E. Buchanan, J. Garfield Buell, H. R. Powers, W. Howard Pape, Oscar Schorp, G. H. Westby.
10:30 a.m. Exposition gates open.

GENERAL EXPOSITION HEADQUARTERS

Exposition Grounds—Phone 9-6311

William B. Way, General Manager

Housing Bureau—Akdar Building, Fouth and Denver—for rooms or to locate visitors phone 3-6875, 5-1896, 4-2713, or 4-9710.

Information Bureaus

Lobbies of Mayo Hotel and Hotel Tulsa, and just inside main gate of exposition grounds.

Transportation

Tulsa City Lines buses to and from exposition grounds.

Taxi pool at traffic circle just outside main gate.

Railroad reservations at Nomads Building.

Airline reservations at company's booths on the grounds.

Messages

Western Union office, Drake Drive opposite Oklahoma Building.

Messages telephoned to The Oil and Gas Journal and Petroleo Interamericano will be delivered anywhere on the exposition grounds by special messenger. Phones: 92-1125, 92-1126, 92-1127.

Information booth, telephone service, and message exchange center at "Dog House" of First National Bank just inside exposition main gate; phones, 9-9330, 9-6338, 9-6339, 92-1123.

All events at exposition grounds unless otherwise specified.

Noted Speakers, Open Forums Scheduled for 3-Day Congress

OPEN-FORUM discussions on all phases of the petroleum industry, interspersed with short addresses by men of national and international prominence in their fields, constitute the program for the International Petroleum Congress which will hold sessions morning and afternoon on May 18, 20, and 21 in connection with the exposition.

Publishers of leading oil-industry journals will preside at the sessions, and the forum discussions will be led by a different panel of experts each day. The chairmen have announced that they will keep discussions short so that all in the audience who desire to take part will have the opportunity to participate.

The program has been keyed to the international level, and it is the intention to confine the forum discussions to subjects of broad significance. Sessions will start at 10:00 a.m. and 2:00 p.m., and all will be in the South Auditorium of Central High School with the exception of the Friday morning session which will be in the North Auditorium of the same building.

The program, arranged by a committee headed by Alf G. Heggem, vice president of Orbit Valve Co., Tulsa, and vice president of the International Petroleum Exposition and Congress, follows:

Tuesday, May 18

P. C. Lauinger, publisher, The Oil and Gas Journal, Tulsa, presiding. Panel: C. O. Willson, editor, The Oil and Gas Journal; R. F. Pielsticker, executive secretary, Skelly Oil Co., Tulsa; Clarel Mapes, secretary, Mid-Continent Oil and Gas Association, Tulsa; Roland Rodman, president; Anderson-Prichard Oil Corp., Oklahoma City; W. F. Lowe, secretary, Natural Gasoline Association of America, Tulsa. Program for day:

Morning: Opening address by Carlos R. Vegh Garzon, president, South American Petroleum Institute, Montevideo, Uruguay.

Address by Harold B. Fell, executive vice president, Independent Petroleum Association of America, "Some Effects of the Free Enterprise System in the Petroleum Industry."

Afternoon: Address by Howard E. Felt, vice president, Warren Petroleum Corp., Tulsa, "Processing and Transporting High-Gravity Fuels."

Address by William T. Payne, president of Big Chief Drilling Co., on "Petroleum Is Progressive."

Thursday, May 20

Ray Dudley, publisher, Gulf Publishing Co., Houston, presiding. Panel: Earl Foster, chairman, Interstate Oil Compact Commission, Oklahoma City; Floyd Green, attorney of Oklahoma Corporation Commission, Oklahoma City; Dr. Waldo Stephens, president, Stephens Petroleum Corp., Oklahoma City; C. D. Watson, vice president, Carter Oil Co., Tulsa; P. H. Bohart, assistant to the vice president, Gulf Oil Corp., Tulsa.

Morning: Opening address by Hon. N. E. Tanner, Administrator of Lands and Mines, Edmonton, Alberta.

Address by Dean A. McGee, executive vice president, Kerr-McGee Industries, Inc., Oklahoma City, "Oil Operations in the Gulf of Mexico."

Afternoon: Address by George L. Crain, Interstate Pipe Line Co., "Installation and Performance of Scale Traps in Sour Crude Service."

Afternoon: Address jointly by J. F. Bayhi and S. P. Ewing, Carter Oil Co., "Cathodic Protection of Casings in the Loudon Pool."

Friday, May 21

Warren L. Platt, publisher, National Petroleum News, Cleveland, Ohio, presiding: Panel: C. E. Buchner, executive manager, Independent Petroleum Association of America, Tulsa; Joseph Bowes, president, Oklahoma Natural Gas Co., Tulsa; S. P. Irelan, president, Cities Service Gas Co., Oklahoma City; W. L. Love, president, The Petroleum Engineer, Dallas; W. H. Wildes, president; Republic Natural Gas Co., Dallas; G. H. Westby, president, Seismograph Service Corp., Tulsa.

Morning: Opening address by Sr. Antonio Bermudez, director, Petroleos Mexicanos.

Address by Dr. Gustav Egloff, Universal Oil Products Co., Chicago, "Petroleum—Yesterday and Tomorrow."

Afternoon: Address by G. H. Westby, Seismograph Service Co., on "The Future of Oil Exploration,"

Dr. B. B. Weatherby, chairman of I.P.E. scientific and technical committee, and Dr. Gustav Egloff will conduct an open forum on "What Is Ahead for the Industry?"

Messenger Service At the Exposition

The telephone numbers for The Oil and Gas Journal and Petroleo Interamericano booths at the International Petroleum Exposition are:

92-1125
92-1126
92-1127

Your message, telephoned there, will be delivered speedily by our dusky messenger to any point in the Exposition. Leave these numbers at your home and office for your oil-show contact. Make use of this free service at any time!

THE OIL AND GAS JOURNAL AND PETROLEO INTERAMERICANO

Building located on Mid-Continent Drive between California and West Virginia Avenues.

Safety Experts Focus Activities at I. P. E.

THE grounds of the International Petroleum Exposition should be one of the safest places in the oil industry.

Not only has every piece of equipment and every building been inspected for safety, but safety experts from all over the country will be present.

The executive committee of the petroleum section of the National Safety Council has transferred its meeting from Philadelphia to Tulsa and will be in session all day May 18 at Hotel Tulsa, with a lunch at 12:15.

On May 19 there will be a special meeting of the American Society of Safety Engineers with the Tulsa chapter as host, beginning at 2:15 in the same hotel, and at a banquet that evening the Joseph A. Holmes Award will be presented to Elijah B. Whatley, Barnsdall Oil Co. employe who saved the life of a fellow worker in a fall from a derrick.

In cooperation with the Petroleum Motor Transport Association the safety men are sponsoring a parade of $2,000,000 worth of motorized petroleum equipment May 19 and the "Roadeo" and safe-driving contest for truck drivers employed by oil companies May 20.

XUM

THE OIL AND GAS JOURNAL'S

DIRECTORY OF EXHIBITORS AND EXHIBITS

INTERNATIONAL PETROLEUM EXPOSITION

TULSA; MAY 15-22, 1948

DIRECTORY OF
EXHIBITORS AND EXHIBITS
INTERNATIONAL PETROLEUM EXPOSITION

LISTED here in alphabetical order are the names and display locations of exhibitors at the International Petroleum Exposition, together with brief descriptions of equipment shown. Many exhibitors are displaying the products of several manufacturers, and the larger displays include items in addition to those listed in this directory.

A-1 Bit & Tool Co.
Houston, Tex.
Block 104
In attendance
C. L. CLAUSEL, C. B. McDONALD
C. O. DENNING, HARRY E. ESTES

Side-wall core barrel, key-seat wiper drill collar assembly, wire-line hard and soft formation core barrel, replaceable-blade drilling bits, straight-hole combination rock-fishtail bits, turbo-jet mud mixers, combination casing mill and casing cutter, whipstocks, self-sharpening milling tools, water-cooled catheads, sure-shot deviation instruments.

The exhibit is surmounted by a 69-ft. derrick. Side-wall cores are taken hourly at this derrick.

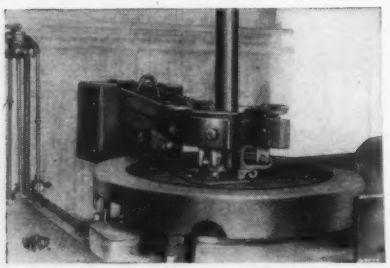
Other exhibits of the company are housed in a tent on the lot, the principal tools being operated mechanically to demonstrate their usage.

(Check 1 for Further Data on Above)

Abegg & Reinhold Co.
Los Angeles, Calif.
2 Silver Lane

Automatic rotary drill pipe slips, master bushings, roller kelly bushings, insert kelly bushings, two-man rotary drill-pipe slips, unitized tri-section rotary drill-pipe slips, drill-collar clamps, substitutes, self-aligning substitutes, slush-pump liners, slush-pump piston rods, swivel wash pipes, tool joints.

New products on display include:



The new Varco automatic rotary drill-pipe slip

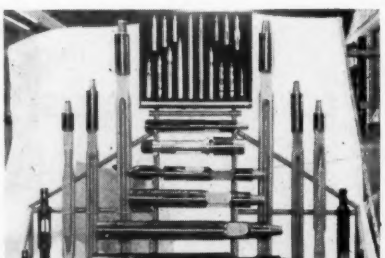
Varco automatic rotary drill pipe slip, a rugged yet extremely plain automatic slip for deep drilling. It can be operated efficiently with but 30-40 psi. of air pressure using a 3-in. diameter cylinder. Should the air fail, the slips, without any mechanical change whatever, can be manually operated as a unit as they are fully counterbalanced and all bearings are antifriction roller bearings. The installation of the derrick is claimed to be simple and fast as the slip and stand is self-contained. A small structural base with adjustable feature to suit the elevation of various rotary tables is attached to the steel base of the derrick and the air connected to the source.

A drill-collar clamp which is more than just a safety device for holding drill collars as it consists of a light-weight set of slips with Varco buttons mounted in each insert which can revolve around its axis so that all buttons automatically hug the drill collar or pipe. A novel feature is that the inserts, held in their top initial position by a string, move downward and inward on a tapered surface, in the same manner as rotary drill pipe slips perform in the taper of the master bushing. Thus the more load, after the initial hand tightening is put on the drill-collar clamp, the tighter the buttons grip the drill collars or pipe.

Unitized tri-section rotary drill-pipe slips described as a mechanical improvement of the widely used light-weight unitized slips type S.U.S. The design of the new tri-section slip features three identical segments, which make up a set of slips. The construction, using only heat-treated chrome-nickel alloy steel, is very rugged to conform with the trend for deep drilling.

(Check 2 for Further Data on Above)

Acme Fishing Tool Co.
Parkersburg, W. Va.
14 Park Lane
In attendance
M. G. DECKER, KARL L. ELLIOTT.
Drilling and fishing tools (cable tools).



Display of drilling and fishing tools of Acme Fishing Tool Co.

(Check 3 for Further Data on Above)

Acme Oil Tool Co.
Oklahoma City, Okla.
62-63 California Building
In attendance
BILL BENDELER, BILL WARNER, GEORGE PROLLOCK, PAUL RAYMOND, TOM SEAGO, HAROLD SADBERRY, RENE CROTHERS, C. N. "SHORTY" HUGHES.

Acme rotary fishing and cutting tools; Spang cable tools; Shaffer blowout preventers.

(Check 4 for Further Data on Above)

Aero Exploration Co.
Tulsa, Okla.
66 Texas Building
In attendance
FRED Q. CASLER, JOSEPH W. TURNER, DARDANELL E. WILSON, JAMIE K. SANFORD, WANDA LEE PETERS.

Aerial cameras, stereoscopic devices, aerial photographic surveys.

The exhibit explains the company's services to the oil industry, including aerial magnetometer surveys, aerial photos for geological reconnaissance and interpreta-

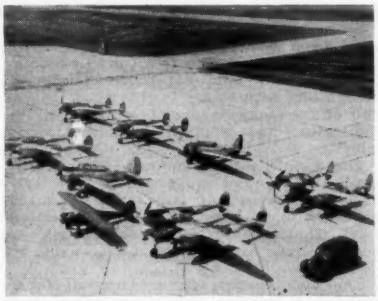
Check It . . . Mail It . . .

IN connection with the "numbered" list of exhibits and exhibitors on these pages for the convenience of its readers the Journal has arranged a special "Check It" . . . Mail It" free information service on the 1948 Oil Exposition.

In this section will be found a perforated prepaid JUMBO free information card, which can be checked or circled against the corresponding "numbers" of the exhibitors listed here.

Whether or not you attend the International Petroleum Exposition in person, this Oil Exposition Issue of the Journal and the Journal's special "Check It . . . Mail It" Jumbo service card will bring you complete Oil Show coverage.

tion surveys, contour maps, planimetric maps, and pipe-line right-of-way surveys.



Part of the fleet of 17 planes which Aero Exploration uses for aerial survey work

(Check 5 for Further Data on Above)

Aeroquip Sales & Engineering, Inc.

Fort Worth, Tex.

47-48 California Building

In attendance

BYRON E. SNOW, ROBERT G. FOX, CURTICE D. HAWTHORNE

Aeroquip hose lines, fittings, self-sealing couplings, and Hydrauliscope.

With the Aeroquip detachable and reusable fitting, service and repair are quickly accomplished in the field or on the job and lost time for valuable equipment is kept to a minimum.

Aeroquip flexible hose lines eliminate failures due to vibration. Types are available for handling low, medium and high pressure; subzero to high temperatures; oil, fuel, water, air, coolants, and many other chemicals.

The self-sealing coupling is simple to connect or disconnect. With their installation, fluid or gas-carrying lines can be disconnected without loss of liquid or inclusion of air upon reconnection.

The Aeroquip Hydrauliscope analyzes hydraulic pressure phenomena of a fraction of a second's duration. The Hydrauliscope can be operated by persons having no special knowledge of electronics, whereas, a conventional oscilloscope needs several accessories, requiring the services of an expert.

(Check 6 for Further Data on Above)

Aerovent Fan Co.

Piqua, Ohio

44-45 Texas Building

In attendance

A. W. ROTH, JAMES F. TILTON

Cooling-tower propellers and industrial fans.

(Check 7 for Further Data on Above)

Ahlberg Bearing Co.

Chicago, Ill.

169 Oklahoma Building

(Check 8 for Further Data on Above)

Air Reduction Sales Co.

New York, N. Y.

31-32-33 Oklahoma Building

In attendance

H. F. HENRIQUES, J. J. LINCOLN, JR.; DALE D. SPOOR, IRA B. YATES, W. G. WICKER, G. VAN ALSTYNE, WILLIAM C. BETTES.

The exhibit features a "live" demonstration of an Airco 6A Oxygraph gas-cutting machine equipped with an electronic tracing device. Operating demonstrations are also given on two Wilson Welder arc-welding machines—the 300 Amp. 36A Hornet and the 200 Amp. Wasp gas-driven welder, using electrodes especially suited for the petroleum field. In addition to displays of the complete Airco line of gas and arc-welding equipment, apparatus, and supplies, the exhibit includes the No. 10 Radiagraph; the new Airco 700 and 800 welding torches; a pipe-bending machine; manual heliwelding equipment, and flame-hardening equipment.

(Check 9 for Further Data on Above)

Airetool Manufacturing Co.

Springfield, Ohio

41 Kansas Building

In attendance

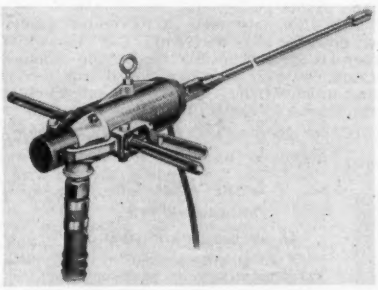
O. F. HAMILTON, THOR THORNSON

Exhibiting a complete line of tube-cleaning and tube-expanding equipment and accessories and oil-refinery specialties, including cutoff tools, calipers, condenser drills, motor parts, water feeders, automatic lubricators, gear drives, brushes, and expanders.

Various designs of single and double expansion-type tube cleaners for both straight and bent tubes are on display and the advantages of the new cutters which clean scale without tracking or damaging the tube are demonstrated.

The features of Airetool's air, steam, and water-driven motors are shown by a cutaway model which has been prepared for this show. Some of the oil-refinery specialties displayed are fly-cutters, combination boring and cutoff tools, inspection gages, calipers and a catalyst-removal system for removing spent catalyst from vertical reactor-type towers of polymerization units.

Among the newer items shown are three models of powerful outside-mounted cleaners for cleaning heat-exchanger and condenser tubes which range from ⅜ to 2½ in. size, which clean tubes that are completely closed or lightly scaled. One of these is a direct-drive cleaner which weighs only 21 lb. and may be used with or without a supporting rig. The various types of drill heads that are used with these cleaners are also on hand. Other new items include a right-angle gear drive which is used for driving expanders where the hand hole is at right angles to the opening; knockout tools for removing stub ends when retubing bundles; a newly designed parallel gear train; and many other pieces especially designed for certain jobs.



Outside mounted cleaner for cleaning heat exchanger and condenser tubes

(Check 10 for Further Data on Above)

Ajax Iron Works

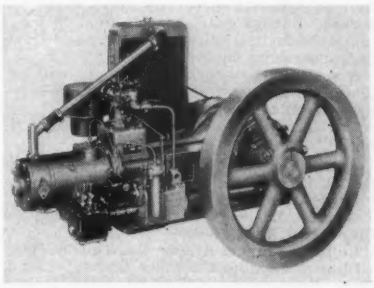
Corry, Pa.

Blocks 1 and 9

In attendance

J. H. CASTOR, L. M. LANPHERE, C. I. RAINESALO, WALTER F. FREEMAN, HARRY C. MINARD.

What is claimed to be the world's largest steam drilling engine is on display in the exhibit of National Supply Co., while Bethlehem Supply Co. is showing the company's new gas engine for the first time.



The new Ajax CMA gas engine. Built on the famous Superior pattern, it embodies many design improvements. Present sizes are 6½ by 8 in., 7¼ by 8 in., 7½ by 10 in., and 8½ by 10 in.

(Check 11 for Further Data on Above)

Aldrich Pump Co.

Allentown, Pa.

30-31 California Building

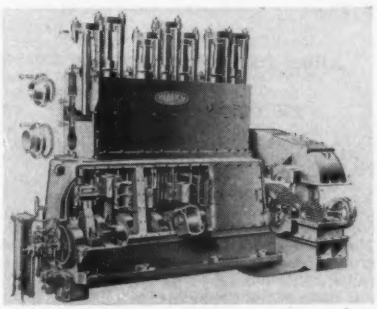
In attendance

L. T. BORNEMAN, J. C. GROFF, L. T. GIBBS.

Aldrich-Groff controllable capacity "Powr-Savr" pump in operation to be controlled by pressure variation.

Aldrich inverted Triplex pump dismantled to show design and accessibility.

The pumps exhibited cover types of pumps as used for product-line service, crude-oil pipe-line service, as well as for water flooding, salt-water-disposal and refinery service. The pumps on exhibition



The 700-hp. vertical Septuplex Aldrich pipe-line pump

are smaller in size than most of the pumps generally used for these services. However, since the design of these pumps, regardless of size, carries through all the outstanding features incorporated in the entire line of Aldrich pumps, visitors can readily visualize the quality and accessibility featured in these units. Enlarged cross-section photographs further illustrate large Quintuplex, Septuplex, and Nonuplex pipe-line pumps and Aldrich-Groff controllable capacity "Powr-Savr" pumps.

(Check 12 for Further Data on Above)

Allied Bearings Supply Co.

Tulsa, Okla.

40 Scientific and Technical Building

In attendance

P. G. HULL, H. V. DAVIS, W. H. ALLEN

Exhibiting all types, styles and makes of

ball and roller bearings in the radial, thrust, and self-aligning types, ball and roller type pillow blocks; flange cartridges; bronze bushings; bronze bar stock; electric-motor bearings; V-belts; sheaves; power-transmission equipment; speed reducers; speed selectors; change-gear boxes; flexible couplings; industrial oil seals; specialized power-transmission equipment.

A staff of engineers at the booth will explain the factory-trained engineering service offered to the oil industry.

The following coexhibitors are participating:

Aetna Ball & Roller Bearing Co., Chicago, Ill.
Barden Corp., Danbury, Conn.
Bantam Bearings Division of Torrington Co., South Bend, Ind.
Bunting Brass & Bronze Co., Toledo, Ohio.
Climax Flexible Coupling Co., Cleveland, Ohio.
Dayton Rubber Co., Dayton, Ohio.
Eberhardt-Denver Co., Denver, Colo.
Fafnir Bearing Co., New Britain, Conn.
Hyatt Bearings Division of General Motors Corp., Detroit, Mich.
Kilian Manufacturing Corp., Syracuse, N. Y.
Marlin Rockwell Corp., Jamestown, N. Y.
Miniature Precision Bearings, Inc., Keene, N. H.
McGill Manufacturing Co., Inc., Bearings Div., Valparaiso, Ind.
New Departure Bearings Division of General Motors Corp., Detroit, Mich.
Nice Ball Bearing Co., Nicetown, Pa.
Norma-Hoffmann Bearings Corp., Stamford, Conn.
Roller Bearing Co. of America, Trenton, N. J.
Sealmaster Bearings Division of Stephens-Adamson Manufacturing Co., Aurora, Ill.
Shafer Bearing Corp., Downers Grove, Ill.
S-K-F Industries, Inc., Philadelphia, Pa.
Strom Steel Ball Co., Cicero, Ill.
Timken Roller Bearings Co., Canton, Ohio.
Torrington Co., The, Torrington, Conn.
Victor Manufacturing & Gasket Co., Chicago, Ill.
John Waldron Corp., New Brunswick, N. J.

(Check 13 for Further Data on Above)

Allied Paint Manufacturing Co.

Tulsa, Okla.

259 Oklahoma Building

In attendance
AINSLIE PERRAULT, R. M. GUNN, A. T. SAUNDERS

Roller mill actually grinding paint.

At this exhibit visitors will actually see paint being processed and manufactured. They will see the pigments and oils being ground together on a small laboratory roller mill that is an exact counterpart of the huge rollers that process thousands of gallons of paint daily at the company's plant.

These heavy steel rolls are set together so closely that they will actually hold water between them, yet because of their lubricating value the pigments and oils pass between them and are ground to a smooth homogeneous mixture the particles of which are microscopic in fineness.

(Check 14 for Further Data on Above)

Allis-Chalmers Manufacturing Co., General Machinery Division

Milwaukee, Wis.

53-58 Oklahoma Building

In attendance
H. L. CLARY, H. A. REINHARD, P. F. BAUER, S. A. WHITEHURST, G. V. POKORNY, R. J. ENTERS, C. A. RICHARDSON, J. M. ANDERSON, T. L. PANKEY, E. H. FREDRICK, E. F. BOENING, C. F. CODRINGTON, R. I. MOORE, V. H. PETERSON, H. L. PICKENS, J. L. PRATT.

Automatic self-priming pump, Magic-Grip sheave centrifugal blower, 10,000 kw. gas turbine, solids-handling pump (models), and Ampac 200 arc welder. Display photos of steam turbine, substation water-conditioning equipment, explosionproof motor, Texrope drives, transformers, condensers, sliding-vane compressors, d.c. generator.

Against a lighted panorama background in bas relief depicting the oil industry from field drilling to bulk stations, are displayed the company's Magic-Grip sheave and automatic self-priming pump in operation, blower and 10,000 kw. gas-turbine models, an aluminum model of the solids-handling pump, and an Ampac 200 are welder with transparent front and cover to show interior mechanism.

A transparent cover on the Speed-Changer enables visitors to view the manner in which this unit provides infinite variations of speeds through a smooth, stepless range as high as 375 per cent.

The operating principle of the self-priming pump, by which fast, smooth transition from priming or vacuum pumping to straight centrifugal action is possible, is demonstrated by pumping colored water through a circuit consisting of an 80-gal. Plexiglas tank and Lucite tubing.

Lighted transparencies show installation views of Allis-Chalmers 10,000-hp. turbo-generator, a 1,400-lb. water-conditioning system, Houdry gas turbine and blower, unit substation, and other products employed in the oil industry.

(Check 15 for Further Data on Above)

Allis-Chalmers Manufacturing Co. Tractor Division

Milwaukee, Wis.

Block F

In attendance
E. R. HANSON, W. S. BARACKMAN

HD19 tractor equipped with a Baker hydraulic bulldozer and Carco J winch; HD7W tractor equipped with a Baker hydraulic bulldozer and Carco F winch; HD5B tractor equipped with a Gar Wood hydraulic tipdozer; AD-4 motorgrader.

Principal units displayed by Allis-Chalmers Tractor Division are its new HD19 torque-converter crawler; its AD-4 motor grader, the new HD5B, and HD7 and HD10 crawlers.

Also on display the new 40,000-lb. HD19 which last October introduced the hydraulic torque-converter drive to the tractor industry. The hydraulic torque converter drive produces a crawler tractor with flexible, usable power.

Allis-Chalmers' new AD-4 motor grader is powered by a 104-hp. GM two-cycle diesel engine. The HD7 and HD10 tractors equipped with matched allied equipment demonstrate the utility of construction equipment in the oil industry.

(Check 16 for Further Data on Above)

Louis Allis Co.

Milwaukee, Wis.

48-49 Kansas Building

In attendance
C. G. SKIDMORE, K. H. BOEHMER, JOHN W. ELDER

Explosionproof motors, splashproof motors, open protected motors, Ajusto-Spede (variable speed a.c. drive).

(Check 17 for Further Data on Above)

Alloy Products Corp.

Waukesha, Wis.

56-57 Kansas Building

In attendance
W. J. WACHOWITZ, J. T. ATKINSON

Stainless-steel bombs for hydrocarbon sample containers, stainless-steel welding-type fittings, miscellaneous stainless steel stampings and fabricated items.

The stainless-steel sample bombs and stainless-steel welding-type fittings on exhibit are fabricated items in which castings have been entirely eliminated. This company specializes in the fabrication of stainless-steel alloys and has achieved national recognition as a leader in this work. It was one of the pioneers in this country in the fabricating and welding of stainless steel alloys.

The stainless-steel sample bombs for hydrocarbon samples are available in a large variety of sizes and are made of many different thicknesses and types of stainless steel. They also can be supplied with a great variety of openings and attachments as desired.

The welding-type fittings are all fabricated units and are also available in a large variety of sizes, thicknesses, and different types of stainless alloys.

The company is also a fabricator of many different types of equipment of stainless steel and has made large stainless steel tanks up to as high as 38,000 gal. capacity.

(Check 18 for Further Data on Above)

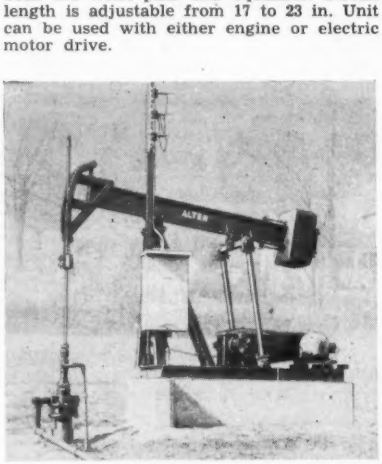
Altens Foundry & Machine Works, Inc.

Lancaster, Ohio.

115 Oklahoma Building

In attendance
W. M. BENSON, M. R. RUFF.

Alten A-40-TC pumping unit—A "junior" size pumping unit, with a structural rating of 4,000 lb., and a torque rating of 17,500 in.-lb. This pumping unit retains all of the features of the larger units, thus providing a quality unit for shallow-well production. The unit is provided with a double-reduction gear reducer, roller-bearing-equipped throughout. Self-aligning, double-row, roller bearings are provided on both the wrist pins and equalizer. Stroke length is adjustable from 17 to 23 in. Unit can be used with either engine or electric motor drive.



Alten A-40-TC pumping unit

(Check 19 for Further Data on Above)

Aluminum Co. of America

Pittsburgh, Pa.

52-53-54-55 Scientific and Technical Building

In attendance
B. J. FLETCHER.

Aluminum pipe, one of the most discussed and investigated items in the petroleum industry, is featured. Welded joints and mechanical couplings of aluminum assist in demonstrating the practicality of aluminum for gathering and distribution

pipe lines. Also of importance to those interested in pipe lines is the display of both aluminum and magnesium galvanic anodes used in protecting buried steel pipe lines and structures.

The value of aluminum paint to the petroleum industry is shown by examples of the resistance to corrosion afforded storage tanks, exposed pipes, cracking towers, and other structural equipment by this highly protective paint, portrayed both in pictures and by test samples.

The new insulated aluminum wires and cables are given considerable prominence. Other electrical conductors such as A. C. S. R. (Aluminum Cable Steel Reinforced) and bus bars, as well as many electrical fittings made of aluminum, are on display.

The chemicals division of Alcoa is showing a new ball form of tabular alumina for use in pebble heaters and as a catalyst support. Activated alumina for drying liquids and gases, and catalysts containing alumina completes the exhibit.

(Check 20 for Further Data on Above)

American Air Filter Co., Inc.

Louisville, Ky.

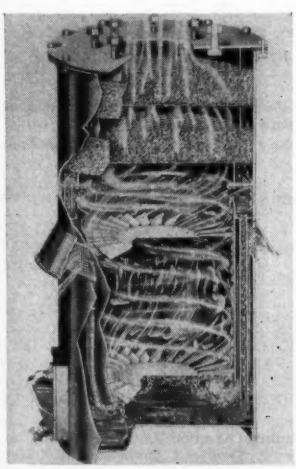
16-17 Texas Building

In attendance

CHARLES C. SOWERBY, JOHN R. McCONNELL, ARTHUR NUTTING, D. M. McMAKIN.

Multi-duty automatic self-cleaning air filter, Electro-Airmat filter, Cycoil oil bath cleaner, viscous-impingment and dry-type unit filters.

A working model of the Cycoil oil-bath cleaner is shown. The operation of the cleaner is unique in that the air in passing through picks up an unusually large quantity of oil, which is thoroughly mixed with the air by causing it to impinge against oil-coated surfaces. Most of the oil picked up is then thrown out at the top of the inner cylinder by centrifugal action, and over 90 per cent of the total dust content of the air is thrown out with this oil. The remaining dust, plus a small amount of oil, then passes to the filter cell where it also is removed.



Cycoil cleaner and silencer, Model "WOI"

(Check 21 for Further Data on Above)

American Airlines, Inc.

New York

Outside front of Texas Building

In attendance

H. C. DUNCAN

Passenger and air-freight equipment.

(Check 22 for Further Data on Above)

American Body & Trailer, Inc.

Oklahoma City, Okla.

Block V

In attendance

CHET BENEFIEL

Oil-field platform and pole trailers, both single and tandem axles; Watson auxiliary transmissions with top-mount power take-off; Tulsa winches; special oil-field truck body.

The exhibit features the Model SF-42-T American oil-field tandem platform along with a special oil-field body and a Model 70 Tulsa winch, mounted on a KB-14 International truck. This equipment is popular throughout the Mid-Continent area for moving heavy oil-field machinery and heavy loads of pipe, bulldozers, tractors, and equipment.

American oil-field tandem platform

(Check 23 for Further Data on Above)

American Bosch Corp.

Springfield, Mass.

55-56 Texas Building

Diesel fuel-injection equipment, industrial magnetos, special service generators and regulators, electric windshield wipers, ignition coils.

(Check 24 for Further Data on Above)

American Brass Co.

Waterbury, Conn.

208, 209, and 210 Oklahoma Building

In attendance

D. E. HOTCHKISS, H. F. KING, W. H. BUTTERBAUGH, H. F. WALLIS, GLEN TURNER, E. B. BROWN.

Anaconda copper and copper-alloy condenser tubes and plates for tube sheets, copper and copper-alloy welding rods, 85 red brass pipe, copper water tubes and soldered and flared tube-type fittings, copper-alloy piston rods for pump rods, red brass seamless tubes, and duplex tubes.

Feature of the exhibit is an operating mechanism demonstrating the efficient heat-transfer properties of copper. One of the elements employs the principles of the controversial heat pump. This mechanism will extract heat from three mediums—air, earth and water—and through two refrigeration cycles will produce both hot and cold air.

Various copper alloys used by the petroleum industry are shown in the form of heat-exchanger tubes and tube sheets, seamless pump-liners, piston-finished pump rod, pipe and fittings; also samples of low-temperature-bronze repair welds in ferrous metal.

(Check 25 for Further Data on Above)

American Cable Division, American Chain & Cable Co., Inc.

Wilkes-Barre, Pa.

173-174 Oklahoma Building

In attendance

R. D. McNUTT, L. G. MOORE, W. D. MERCER, R. O. CRENSHAW, T. R. FOSTER, E. H. TODD.

Tru-Lay preformed wire rope for rotary drilling lines; bailing, coring and swabbing lines; tubing and sucker-rod lines; winch lines; Crescent nonpreformed wire rope.

(Check 26 for Further Data on Above)

American Car & Foundry Co.

New York, N. Y.

Block 3

Exhibiting with Mid-Continent Supply Co.

Block U

Exhibiting with Moorlane Co.

(Check 27 for Further Data on Above)

American Chain Division, American Chain & Cable Co., Inc.

York, Pa.

157 Oklahoma Building

In attendance

C. A. GOLDSTROHM, S. A. POAGE.

Acco winch-line tail chains, welded chain for oil-field services, heavy-duty X-Type truck and tractor chains for oil-field services.

(Check 28 for Further Data on Above)

American Hammered Piston Ring Division, Koppers Co.

Baltimore, Md.

74-75 Texas Building

(Check 29 for Further Data on Above)

American Iron & Machine Works Co.

Oklahoma City, Okla.

111-112 Oklahoma Building

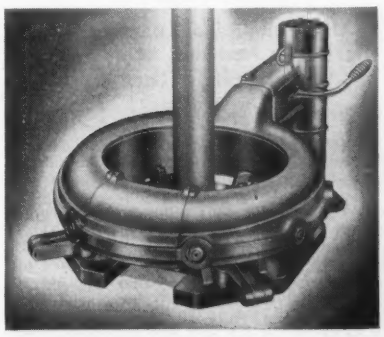
In attendance

J. M. TAYLOR, CLAUDE GRIFFIN, M. G. McCOOL, E. E. RUBAC

Straight Grip tool joints; "Simplo-Trip" power slips; "Simplo Friction" catheads; drill collars; kellys; control-head packers; slush-pump, standpipe and manifold fittings; slush-pump valves and seats.

The Simplo-Trip power slips, newly developed by American Iron, center the drill pipe before the slips take hold. Perfect centering of drill pipe is assured by the use of four guide rollers. These slips can be taken on and off by one man, without the aid of a catline.

The new "Straight Grip" tool joints on display are claimed to give four-point protection of stabilizer seal, thread seal, inside seal, and shoulder seal, and because of increased simplicity and efficiency of design, are said to be three times as strong as the pipe they connect. This advanced design makes all tool joints interchangeable with pipe ends of comparable size. There is no



American Iron & Machine Works Co. power slips

need for selective fitting of joint to pipe when making installation. New type, portable furnace used to heat the tool joint is an entirely self-contained unit, and needs no connection to fuel line of any kind.

Special "Straight-Grip" tool joints are being shown with the connection cut on the drill collar for tool-joint application so engineered as to eliminate breakage from torsional fatigue, high compression, or tension loads. This improved design is said to impart flexibility to the drill-collar string, dampening transverse and longitudinal vibrations.

(Check 30 for Further Data on Above)

American Manufacturing Co. of Texas

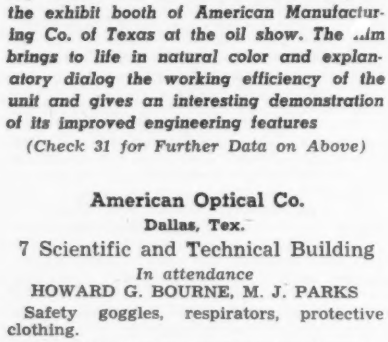
Fort Worth, Tex.

35 Silver Lane

In attendance

G. L. MESSER, R. S. HESTAND
J. E. LOTT, H. D. BILES

Exhibiting a colored, sound movie of equipment.



This new American pumping unit is the star performer in the color film "Profitable Pumping" which will be shown continuously in the exhibit booth of American Manufacturing Co. of Texas at the oil show. The film brings to life in natural color and explanatory dialog the working efficiency of the unit and gives an interesting demonstration of its improved engineering features

(Check 31 for Further Data on Above)

American Optical Co.

Dallas, Tex.

7 Scientific and Technical Building

In attendance

HOWARD G. BOURNE, M. J. PARKS

Safety goggles, respirators, protective clothing.

(Check 32 for Further Data on Above)

American Roller Bearing Co.

Pittsburgh, Pa.

21 Silver Lane

In attendance

W. G. SUCCOP, C. L. KNAAK

American Roller Bearings for several types for use in oil-well exploration, drilling, and production equipment.

To prevent the skewing or twisting of rollers in needle (full roller-type) bearings, American needle bearings incorporate three patented roller guide blocks spaced at 120° intervals and fitted snugly between the channeled races in which they operate so that misalignment of the rollers is not possible. These rectangular guides, machined to close tolerances, are twice the diameter of the rollers used in the bearing and each block is in effect an individual cage retaining a single roller of the same effective length as the other rollers.

The incorporation of these guide blocks enables the rollers to enter the load zone in perfect alignment and makes possible the successful use of American needle bearings in full rotation applications in addition to their former recommended use for oscillating applications only.

(Check 33 for Further Data on Above)

American Recording Chart Co.

Los Angeles, Calif.

42-43 Scientific and Technical Building

In attendance

J. W. DUNN, W. R. GAY, T. H. CODY.

Arcco "Dry-Air" gas gravitometers, recording liquid gravitometer, recording controlling liquid gravitometer, controlling viscosimeter.

Top: Arcco-Anubis "Dry-Air" gas gravitometer. Bottom: Arcco-Anubis recording controlling liquid gravitometer

(Check 34 for Further Data on Above)

American Sand-Banum Co., Inc.

New York, N. Y.

101 Texas Building

In attendance

FRANK J. WELU, GEORGE A. KRUTILEK
LOUIS BRADIE

Sand-Banum standard scale and corrosion eliminant for high-pressure steam boilers; Blue Seal Emulsion Sand-Banum scale and corrosion eliminant for circulating systems of diesel engines; Sand-Banum special rust and scale eliminant for all radiator-cooled engines.

Colloidal control is the principle underlying the Sand-Banum products on display. The one basic principle is most effectively adapted for use in many fields.

The three products contain no acids or caustic chemicals. They are pure colloidal concentrates; all active ingredients, and effective in all waters, and under all operating conditions.

(Check 35 for Further Data on Above)

American Steel Derrick Co.

Tulsa, Okla.

1-2 Kansas Building

(Check 36 for Further Data on Above)

American Steel Works

Kansas City, Mo.

Block 102

In attendance

GLEN D. HERRIN, JOHN BEHRENFELD,
BOB SHACKELFORD

A 15-bbl. agitator-type pipe line heating kettle.

(Check 37 for Further Data on Above)

Ames Baldwin Wyoming Co.

Parkersburg, W. Va.

3 California Building

(Check 38 for Further Data on Above)

Ampco Metal, Inc.

Milwaukee, Wis.

32-33 California Building

In attendance

S. C. LAWSON,

Ampco centrifugal pump constructed of corrosion-resistant aluminum bronze; Ampco nonsparking safety tools; fabricated assemblies of rolled sheet, centrifugal castings, extruded rod welded with Ampco-Trade electrode; bronze alloys and parts pertinent to the petroleum industry.

Prominent in the display is the newly designed Ampco centrifugal pump, constructed of corrosion-resistant aluminum bronze and well suited for handling salt water in oil field salt-water-disposal plants, as well as other corrosive and abrasive applications in the oil field.

The new pump is a single-stage, single-suction, closed-impeller model with capacities up to 240 g.p.m. and heads up to 170 ft. Sizes are 1½ by 1¼ in., 2 by 1½ in., and 2½ by 2 in. Liquid passages are streamlined for high efficiency and quiet operation. Bearing thrusts are reduced by hydraulic balance. Pumps come in close-coupled and pedestal types. Pedestal pumps can be connected to any drive: electric motor, turbine, or gas engine.

(Check 39 for Further Data on Above)

Anchor Burner Co.

Oklahoma City, Okla.

102 Texas Building

Exhibiting with Well Equipment Manufacturing Corp.

(Check 40 for Further Data on Above)

Armco Drainage & Metal Products, Inc.

Middleton, Ohio

Block R

In attendance

R. C. BEAM, R. E. WALKER, R. O. HAYES, S. R. IVES, H. D. NEILL, R. K. LEEDOM, W. H. SPINDLER, C. G. HISKEY, R. E. FARQUHAR, E. H. HOLLAND, G. H. KLOUMAN, PAUL WEINMAN, WILLIAM F. ELLIOTT, R. L. WELLS, JR.; C. J. COLEMAN, J. W. SCOFIELD.

Standard Armco Steelox building at the corner of Dawson Avenue and Oklahoma Drive houses the joint exhibits of Armco Steel Corp. and Armco Drainage & Metal Products, Inc.

Featured is the use of Armco spiral welded pipe for such purposes as line pipe; casing and conduit, including equipment for lining up the pipe; field coating and wrapping procedure, and wrinkle bending. Also displayed are corrugated-metal drainage structures, tunnel lining, sheeting, quick-coupling pipe, Flex-Beam guardrail, steel buildings, and tanks.

Many items for use in the oil fields, produced from Armco stainless steel, including

well screens, christmas trees, tubing hangers, and measuring lines are displayed.

(Check 41 for Further Data on Above)

Armco International Corp.

Middletown, Ohio

East of Block R

Exhibiting with Armco Drainage & Metal Products, Inc.

(Check 42 for Further Data on Above)

Armco Steel Corp.

Middleton, Ohio

Block R

This company, formerly known as American Rolling Mill Co., shares an exhibit with its affiliate, Armco Drainage & Metal Products, Inc.

(Check 43 for Further Data on Above)

Armstrong Machine Works

Three Rivers, Mich.

94-95 Texas Building

In attendance

O. E. ULRICH, WALTER B. ALLAN

Armstrong steam traps; Armstrong gasoline-water traps; glass model of the Armstrong trap operating at 7-lb. pressure showing how the trap handles dirt and air, as well as condensate; sectional and working models of the Armstrong foul-gas purger.

The feature of the exhibit is a glass-bodied model of a No. 812 Armstrong steam trap operating on steam at 7-lb. pressure, showing how the trap handles condensate, and also air and dirt. Of special interest to refrigerating engineers is a No. 370 automatic foul-gas purger operating on freon. Means are provided for pumping air into the low side of the system, with the air being promptly and automatically removed from the system with a minimum loss of freon gas.

(Check 44 for Further Data on Above)

Associated Publishers, Inc.

Dallas, Tex.

3 Oklahoma Building

(Check 45 for Further Data on Above)

Athey Products Corp.

Chicago, Ill.

Blocks C and E

In attendance

E. T. TULLER, O. D. LEE, W. L. BOHNER
C. E. JONES, W. J. HOGAN

Athey Forged-Trak tractor trailer with "Caterpillar" D7 tractor; Athey Forged-Trak wheels with Texas Flange Co. dolly as used for moving derricks; Athey Forged-Trak wheel display.

Oil-field derricks weighing in excess of 125 tons have been moved a distance of 8 miles in 2 days over-all time as compared with 10 days usually required by former procedures. Derrick rigs are raised and Athey Forged-Trak wheels and dollies are placed under the base beams at each corner of the rig. The large ground-contact area of the Forged-Trak wheels floats the heavy drill rigs over soft and sandy terrain. In addition to saving time when a drilling contractor is ready to set up over a new location, the wear and tear on base beams are eliminated and moves can be made with a minimum of equipment.

(Check 46 for Further Data on Above)

Axelson Manufacturing Co.

Los Angeles, Calif.

Block 1

Displayed by Jones & Laughlin Supply Co. are Axelson stainless steel pumps, the new nonmagnetic Axite ball and seat, and the new Duax pump liner manufactured by a new process by which an extremely hard inner surface of specially alloyed iron is centrifugally cast into a seimless-steel shell.

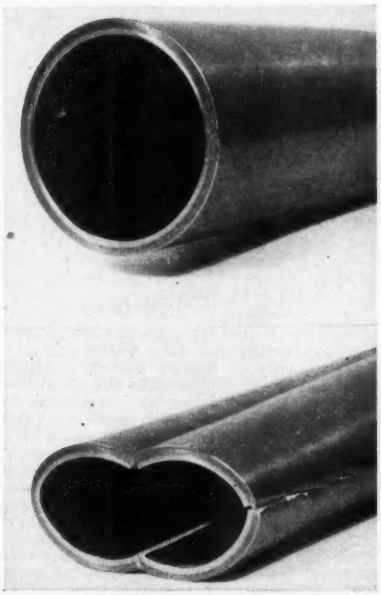


Photo showing result of crush test on the new Axelson Duax pump liner, offers evidence of the complete bond between inner centrifugally cast iron with outer steel shell

(Check 47 for Further Data on Above)

Baash-Ross Tool Co.

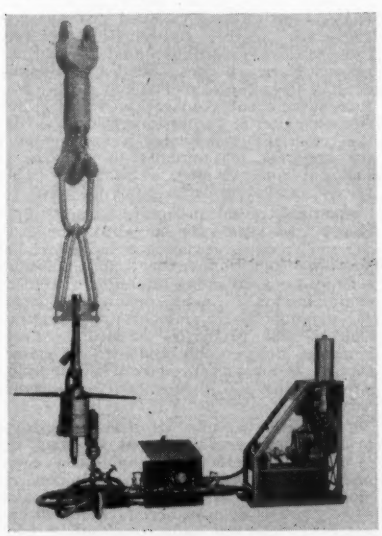
Los Angeles, Calif.

33 Silver Lane

Unitized blocks, roller kelly drive bushings, rotary slips, casing slips, drill collar slips, hinged casing spider, safety clamps, fishing tools, casing and landing heads, and many other products.

The exhibit features the recently developed Baash-Ross power swivel which is revolutionizing many light rotating jobs on modern oil-field operations. This unit features a hydraulically driven swivel which is operated by fluid under pressure which is generated in an engine-driven power unit which may be placed at any convenient location either on the rig or outside of it. Connection between the power unit and swivel unit is provided by flexible hoses which pass through a control unit in which all control operations are centralized. By means of a single control the swivel can be started, stopped and the direction of rotation reversed if desired. Because the power swivel requires no rotary table, drawwork, or other heavy equipment, it is used for all types of light rotary operations where only a limited amount of torque is required, such as drilling out cement plugs and sand bridges, scraping paraffin, rotating the run-in string on internal cutting jobs, and many other similar applications. On cutting jobs its sensitive hydraulic drive eliminates the irregularities and uneven feed of manual rotation.

Other Baash-Ross products are being displayed by various supply companies elsewhere in the Exposition.



Baash-Ross power swivel showing swivel unit (left), control unit (center), and power unit (right)

(Check 48 for Further Data on Above)

Bailey Meter Co.

Cleveland, Ohio

40 Silver Lane

In attendance

C. E. ALBERT, C. M. KUNKEL,
C. H. BARNARD

Bailey area meter, a recorder capable of accurately measuring viscous as well as free-flowing liquids. Composed of especially designed telemetering transmitter installed in pipe line and connected to standard electronic-type recorder. Transmitters available in 1 and 2-in. sizes with pressure standards of 250 and 600 psi. Two transmitters may be connected to same recorder to measure ratio, sum or difference of two flows.

Bailey pyrotron, a specially-built two-pen temperature recorder equipped with both thermocouple and resistance element units. Instrument is extremely sensitive to slight temperature variations and may be equipped with air-operated control.

Bailey oxygen recorder, an electronically-operated instrument measuring percentage of oxygen in gaseous mixtures. Analyzer works on catalytic combustion principle; gas sample is burned on catalyst filament which forms one leg of a.c.-measuring bridge. Two analyzers may be connected to one recorder so records can be easily compared. Air-operated control may be supplied.

(Check 49 for Further Data on Above)

Baird Manufacturing Co.

Tulsa, Okla.

15 Texas Building

In attendance

H. J. SHERIDAN, TOM HULETT, JOHN OLIVER, F. N. WILSON, ELLWOOD BROCKMAN, LINTON DAVIS, L. K. MARTIN.

Various types of ball and seat assemblies, snubber cages for bottom-hole pumps, positive-lift valves for the elimination of gas locks in oil-well pumps, ball-and-seat bubble-testing machine, sucker-rod sockets, safety wheel wrench, polished-rod safety step, tapered fishing tap for fishing bottom-hole pumps and parts.

"On and Off" sucker-rod coupler for running oversize pumps, stuffing boxes with "Chervon" packing, stuffing boxes with O-ring packing, clean-out tap and dies for tubing, clean-out tap and dies for sucker rods, clean-out tap and dies for blowout-preventer studs, crank-hole reboring machine for boring holes in crank arm in the field, wrist-pin puller for removal of wrist

pin from the crank arms, and wrist pins with tapered slips.

(Check 50 for Further Data on Above)

Baker Oil Tools, Inc.

Los Angeles, Calif.

99-100-101-102 Oklahoma Building

In attendance

C. E. WHITNEY, P. E. HILTON, W. H. GRIFFIN, R. C. GLOVER, C. J. BERLIN, H. F. HARPER, E. F. HANNON, A. K. KLINE, G. E. TURNER, R. D. McBRIAN, R. C. BAKER, SR.; T. SUTTER, H. W. PULLMAN, E. M. BOGGESS, F. S. FOBES, W. S. ALTHOUSE, A. A. BAKER, R. W. HENDERSON, G. M. ANDERSON, W. F. SCHMIDT, M. B. CONRAD.

Baker Model "RT" retrievable cementer, Model "D" retainer production packer, Model "D" change-over flow tube, No-Left-Turn latching sub, Multi-V tubing seal nipple, tubing seal nipple locator sub, perforated production tube, packer safety joint, Triplex cementing equipment, casing centralizer, hydraulic hand pump, male and female cement float collar, cement wash-down whirler float shoe, cement whirler float collar, cement whirler float collar with solid bottom baffle, metal petal basket.

Triplex cement baffle collar, Triplex flapper valve float collar, Duplex cement wash-down whirler float shoe, Multiplex cementing collar, Model "B" casing centralizer, portable hydraulic kelly and pipe straightener, rotary hydraulic expansion wall scraper, rotary casing scraper, junk basket, "Bakwik" Model "B" drill-pipe float valve, standard cable-tool core barrel, Model "K" cement retainer, Model "L" circulation joint, expansion joint, left-hand square thread sub, Type "E" circulating sub.

(Check 51 for Further Data on Above)

Balmar Corp.

Baltimore, Md.

261 Oklahoma Building

In attendance

J. E. LONG, A. A. MURISON, W. C. SAMPSON, J. A. GRIFFITH

Clyde valve, Balmar industrial ball joint, Franklin tank-car valve, McLaughlin joint, Franklin sleeve joint.

(Check 52 for Further Data on Above)

Band-It Co., Inc.

Denver, Colo.

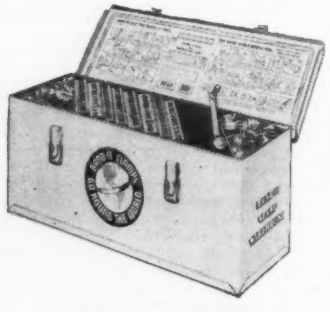
79 Oklahoma Building

In attendance

ROSS K. REED, VAL LODHOLM, ANDREW L. HERING.

Band-It tools, bands, buckles, and clamp warehouses.

Band-It pressure clamps fit any object from ½ in. to 30 ft. in diameter, using stainless-steel bank. Clamps eliminate necessity for dozens of special-size fittings or tools. A single tool which applies all widths of bands. Stainless-steel fittings of 100 ft. lengths are available in four widths—⅜, ½, ⅝, and ¾-in. Stainless-steel buckles fit the four widths. Buckles are simple in construction and hold the full length of the band under maximum tension.



Band-It clamp warehouse

(Check 53 for Further Data on Above)

Bantam Bearings Division Torrington Co.

South Bend, Ind.

185-186 Oklahoma Building

(Check 54 for Further Data on Above)

Barbour Stockwell Co.

Cambridge, Mass.

Block 3

In attendance

JOHN J. WHITEHOUSE

Reliance tachometers, instrument panels, adapters, clutches, flexible shafts.

Instruments on display include a representative line of tachometers and an instrument panel containing an assortment of pressure and temperature gages, of brass construction, indirectly lighted, and completely weatherproof encased. Adapters in many ratios and with various types of fittings and connections are displayed, some in bronze cases with brass connections for industrial and marine applications; others in anodized aluminum cases and connections for air-borne installations. Reliance clutches are featured. The value of these clutches, permitting the disengagement of all moving parts in the tachometer installation, is widely recognized in the oil industry. Flexible shafts in galvanized steel, brass and bronze braided waterproof casings are also exhibited.

(Check 55 for Further Data on Above)

Baroid Sales Division, National Lead Co.

Los Angeles, Calif.

83-84-127-128 Oklahoma Building and Block 8

In attendance

GEORGE L. RATCLIFFE, D. A. SIKES, H. H. FARNHAM, W. L. HEATER, R. W. WILSON, R. C. MARR, DIXON D. POWERS.

Baroid drilling-mud weighting material; Aquagel gel-forming colloidal drilling clay; Impermex organic colloid for extremely low water-loss drilling mud; Impermex preservatives; Baroco salt-water-resisting drilling clay; Zeogel special clay for use as a suspending agent; Aquagel cement; Fibertex fibrous material for restoring lost circulation; Jelflake fragmented cellophane foil for restoring lost circulation; Micatex, a material for reducing water loss to the formation; Baroid cyclic pumping unit.

Stabilite chemical mud thinner; Carbonox and Tannex; Anhydrox for preventing and overcoming the effect of gypsum and anhydrite contamination; Smetox for overcoming the effect of cement contamination in mud; testing equipment for making field and laboratory examinations of the properties of drilling mud; Autotrol floatless oil and gas separator; Baroid V-belt shock absorbers, drill-pipe wipers, pulsation dampeners, well-logging service.

The exhibit features all of the company's products and services. New products include two organic mud thinners, Carbonox and Tannex. New specialty equipment includes the Baroid cyclic pumping units, two of which are in operation in Block 8, one pumping conventionally, the other continuously varying its stroke.

Baroid's display in Block 8 also includes a complete mud analysis well-logging unit and an Autotrol floatless oil and gas separator. A transparent working model of the Autotrol is on display in the booth in the Oklahoma Building.

(Check 56 for Further Data on Above)

John Bean Manufacturing Co.

Lansing, Mich.

46 California Building

(Check 57 for Further Data on Above)

Beaumont Iron Works Co.

Beaumont, Tex.

42 California Building

Exhibiting with Aetna Ball & Roller Bearing Co.

Block 1

Exhibiting with Jones & Laughlin Supply Co.

Block 9

Exhibiting with Bethlehem Supply Co.

(Check 58 for Further Data on Above)

Bethlehem Steel Co.

Bethlehem, Pa.

Block 9

In attendance

A. A. WARG, C. R. ZIMMERMAN, E. A. BUXTON, G. L. LASCHOBER, JR.; O. E. BERG, N. A. DOWNIE, L. C. TORELL, T. J. FITZGIBBONS, C. M. MACKALL, B. C. MACGREGOR, R. E. BURNS, P. E. ANDERSON, V. A. KELLY, C. B. HINTON.

Wire rope, tubular products, sucker rods, forgings, bolting and studding, photos of tanks.

(Check 59 for Further Data on Above)

Bethlehem Supply Co.

Tulsa, Okla.

Block 9 Silver Lane

In attendance

H. H. FULLER, W. M. JONES, J. W. HOLLINGSWORTH, P. B. ERWIN, G. E. PITTS, J. C. GRAVES, JR.; G. A. TOMPSON, R. G. AYERS, H. R. POWERS, R. E. DOW, V. W. BAILEY, C. C. CRIDER, B. E. GROENEWOLD, T. B. LEECH, C. F. CARMAN, R. L. NEAL, and about 85 others from the operating, sales, and stores departments.

Inquire at information booth in Bethlehem Building.

The machinery display includes both new drilling and production equipment. There are two completely new and different drilling rigs, the "Tornado," rated at 13,000 ft., and the "Whirlwind" Hydrodrive unit, rated at 7,500 ft. New accessories shown with these rigs include a G-450 7¼ by 16 Duplex power slush pump, a B-21-S heavy-duty oil-bath rotary table, and a "Zephyr" Hydrodrive coring reel unit.

Bethlehem also displays its new modern A.P.I. line of pumping units which feature the interchangeability of single and double-reduction gear-box sizes within a given range of sturdily built structural assemblies.

An actual Bethlehem Supply Co. field store building is erected on the grounds, containing nationally known lines of oil-country supplies and equipment. The company has many large exhibits within the Bethlehem building of interest to all steel users both within and outside the oil industry.

(Check 60 for Further Data on Above)

Bettis Corp.

Houston, Tex.

Block V

(Check 61 for Further Data on Above)

Bettis Rubber Co.
Los Angeles, Calif.
5 Texas Drive

In attendance
B. H. BARNES, H. M. TAYLOR

Bettis drill-pipe protectors, drill-pipe stabilizers, installation equipment, drill-pipe wipers, sucker-rod protectors, sucker-rod protector applicator.

(Check 62 for Further Data on Above)

Big Three Welding Equipment Co. Oklahoma Oxygen Co.
Tulsa, Okla.
189-190 Oklahoma Building

In attendance
E. J. KIKER, C. K. RICKEL

Ransome positioners, Taylor-Winfield resistance welders, Schramm air compressors, Victor welding equipment, Ohmstede shape and circle-cutting machines.

(Check 63 for Further Data on Above)

Black & Decker Manufacturing Co.
Towson, Md.
38-39 Texas Building

In attendance
W. L. POYNTER, LEON (Pete) MOFFETT, R. H. SORRELS, A. R. COOPER, R. G. SCHUCK.

Portable electric tools consisting of electric drills, grinders, sanders, polishers, screwdrivers, nut runners, tappers, electric saws, electric hammers, glue pots, valve refacers, valve-seat grinders.

(Check 64 for Further Data on Above)

Black, Sivalls & Bryson, Inc.
Kansas City, Mo.
39-40-41-64-65-66 California Building

In attendance
A. J. SMITH, VERNE PALMER, H. B. FESSLER, F. C. MYERS, LEE KELTON, RALPH STEVENS, M. R. WADDELL, F. L. CARDER, H. L. McLELAND, ED NELSON.

Model 70 indirect heater, stage separation, chemical feeders, oil-seal valve and separator.

Flow diagram of treaters and other products are shown by means of illuminated transparencies.

(Check 65 for Further Data on Above)

Bonney Forge & Tool Works
Allentown, Pa.
93-94 Kansas Building

In attendance
F. S. DURHAM, JR.; C. D. OTTERSON

Weldolet fittings and hand tools.

These fittings are used for branch-pipe outlets and although they are not new products, their successful and extensive application in the oil field is comparatively recent. Wherever branch-pipe outlets are taken off, or wherever thermometers or other meters are required, Weldolet fittings result in a material saving in finished-job costs due to the fact that the use of these fittings eliminate forming, fitting, beveling, and aligning and results in a uniform appearance.

A new catalog is being introduced at the show, giving complete information about welding, threaded, and socket-type outlets —what they are, where they can be used, how to install them and other necessary engineering information.

(Check 66 for Further Data on Above)

Bovaird & Seyfang Manufacturing Co., Dresser Industries, Inc.
Block 11

(Check 67 for Further Data on Above)

Bovaird Supply Co.
Tulsa, Okla.
Block 1

In attendance
C. E. PEARSON, R. E. BATCHELOR, V. P. McANALLY, R. E. WHITTEN, L. W. BARTHELD.

Associate exhibitors:

Brewster Manufacturing Co.
E. T. AUXTER

Dempster Mill Manufacturing Co.
I. N. DOWNS

Emsco Derrick & Equipment Co.
CHARLES McLANE, JR.

Hazard Wire Rope Division
J. R. McCREA

Hillman-Kelley
E. C. DORROH

J. M. Huber Corp.
B. W. PEOPLES

Republic Rubber Division
N. M. GROVE

Tnemec Co.
A. C. BEAN

Well Equipment Manufacturing Corp.
AL BRIGHT

Baash-Ross roller kelly drive bushings, rotary slips, Type C safety clamp; Brewster traveling blocks, rotary tables, swivels; Buda gasoline engines; Chiksan all-steel rotary hose; Dempster salt-water-disposal pumps.

Emsco slush pumps, unit pumpers; Fairbanks-Morse gasoline engines, electric motors; Hazard wire rope; Hillman-Kelley power tubing tongs, power sucker-rod wrenches; Huber paraffin scrapers; Hughes rock bits.

Byron Jackson elevators, hooks, elevator weldless links, tongs; National tubular goods; Orbit valves; Pacific deep-well pumps.

Reed rock bits; Republic Rubber belts; Republic Steel tubular goods; Tnemec coating; Thermoid rotary hose; Weco unions.

Featured among the Bovaird exhibits is the Emsco A-10 Triplex slush pump, an all-steel power pump having three double-acting cylinders. It has 6¼-in. maximum liner diameter, and 10-in. stroke, rated at 220 hp., at 95 r.p.m. The fluid end and the power end are made of cast steel and structural shapes, which makes the entire unit light and rugged.

The design of the fluid end of the A-10 pump is a departure from the conventional valve-pot construction. It makes use of six double-deck valve chambers, the discharge valve being installed in a valve-seat retainer directly above the suction valve, and held in place with a removable cage, thus making the suction and discharge valves accessible by removing only one valve-pot cover.

The power end is of fabriform construction, making use of steel plates and steel castings. The main gear mountings are of the split cap type. The double wall construction under the main bearings make the frame extremely rigid. The pump skid is built integral with the power frame.

(Check 68 for Further Data on Above)

Bowser, Inc.
Fort Wayne, Ind.
71-72 Scientific and Technical Building

In attendance
C. A. WEEGO, G. W. COCKE, C. G. ROSE

Xacto meter, positive-displacement type, in iron, bronze, or all stainless steel construction; recording printer dials for Xacto meters; predetermining dials for Xacto meters.

Xacto pack pumping and metering unit with flexible cable drive, Rotorol rotary meter, Rotorol rotary meter with integral air eliminator and strainer.

Gas trap for oil wells, Portachek portable well-check unit, Xacto proportioning system.

Fog fire-fighting units, filtration system for salt-water disposal or repressuring, Rol-Way low model pump with Bowser hose-retrieving device, rotary hand pumps.

Bowser automatic well-check systems provide accurate records of the quantity and quality of individual well production. Designed for permanent or portable use, meter constructions are gray cast iron, brass and bronze, or stainless steel. The sampler automatically removes proportional sample from every one-tenth barrel. The gas trap has patented peel-off valve which eliminates spillage of crude to gas line and provides positive seal.

The Bowser Rotorol meter is for either pump or gravity installation, and is designed for tank-battery gravity systems or for flooded suction side of pipe-line pump stations or tank farms.

Automatic proportioning system for precision oil-blending accurately proportions two or more liquids in percentages as low as ½ per cent.

The new Rol-Way gasoline-dispensing pump is only 57½ in. high and has roller-bearing hose-retrieving device.

Other Bowser products displayed are flexible-cable-drive metering and pumping units for tank trucks, fog fire-fighting units, rotary hand-pumps, and salt-water filtration systems for disposal or repressuring systems.

(Check 69 for Further Data on Above)

Braden Steel Corp.
Tulsa, Okla.
Block U

In attendance
WM. D. MOORER, L. C. CONVERSE

The exhibit consists of a specially constructed steel building which houses Moorlane exhibits. One-half of building is conventional sectional-type construction, the other half rigid frame construction. Several types of windows and doors are incorporated in the building design and three different types of ventilators are used on the roof: stationary with damper, continuous ridge, turbine. The building is equipped with guttering and downspouts and has a 6-ft. metal canopy across the front. The building is covered partly with standard corrugated-iron sheets and partly with corrugated transite.

(Check 70 for Further Data on Above)

Bradford Pipe Cement Lining Co.
Tulsa, Okla.
262 Oklahoma Building

In attendance
MORRIS FELL, JACK WOLFE

Cement-lined pipe, fittings, packers, and water meters.

Bradline uniform cement lining of pipe and fittings furnishes protection against corrosion and the company offers a special service of cleaning, straightening, threading, and lining new and used material. The company also offers new and used pipe, pipe fittings, packers, headers, etc., lined and ready for delivery.

(Check 71 for Further Data on Above)

Braniff Airways, Inc.
Dallas, Tex.
Outside Texas Building

In attendance
IRA P. JONES, JR.; ROBERT T. PHINNEY, RICHARD TALBOT, CHARLES GRAY, and two Spanish-speaking hostesses.

Postcards will be mailed free at this display illustrating the company's routes in North and South America.

(Check 72 for Further Data on Above)

Brewster Co., Inc.

Shreveport, La.

Block 10

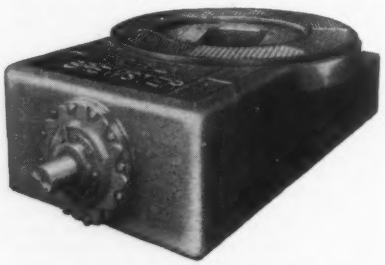
In attendance

P. J. PARKER, H. B. MARIONEAUX, H. J. WENK, J. H. ALMAND, E. T. AUXTER.

N-2 draw works, N-7 draw works, N-4 draw works, rotaries, swivels, traveling blocks.

New products featured are:

The RS-22 Oilbath rotary, of special interest to deep-well drillers. Featuring heat-treated spiral bevel ring and pinion gears, the RS-22 has full 22-in. table opening. It is a box-type rotary with one-piece



Brewster RS-22 oil-bath rotary

cast electric alloy-steel bed designed to take the heaviest loads. The skid is an integral part of the base, making the entire machine more shock absorbent, compact, and easy to move. It is recommended for drilling to 12,000 ft.

The N-7 rotary draw works for medium-depth drilling, designed for drilling to 7,500 ft. with 4½-in. pipe. The over-all drum height is only 55 in., which affords excellent visibility for the operator. With transmission and draw works unitized on a single master skid, the N-7 is easily portable. All controls are air operated, and located in a central control panel at the driller's position. The 500-hp. transmission gives 12 line speeds and 6 rotary speeds. All moving parts and chains are entirely enclosed.

The new Model H-100 hook block for use in jack-knife derricks or where derrick height is limited. With a capacity of 100 tons, the H-100 has three 30-in. sheaves turning on individual Timken tapered roller bearings.

The N-2 rotary-rig draw works, a small compact draw works designed for drilling to 2,000 ft. with 4½-in. pipe, or servicing wells to 6,000 ft.

(Check 73 for Further Data on Above)

Bridgeport Brass Co.

Bridgeport, Conn.

123-124-125 Kansas Building

In attendance

P. DAVIDSON, A. ZENDER, B. NEILSON, G. CHATNEUFF, C. HANCOCK, L. BULOW, F. SNEDEKER.

Condenser and heat-exchanger tubing in various alloys, showing methods of manufacture and applications.

Duplex tubing made of two different kinds of metals to resist double corrosion; copper-steel, for example, is used very successfully for ammonia refrigeration systems.

Duronze silicon bronzes and aluminum bronze alloys for applications requiring corrosion resistance and great strength.

Strip brass, bronze, and copper used for fabrication.

Wire for manufacturing high-strength screw products by the cold upsetting process.

Brass and bronze rod for manufacturing screw-machine products.

(Check 74 for Further Data on Above)

Bristol Co.

Waterbury, Conn.

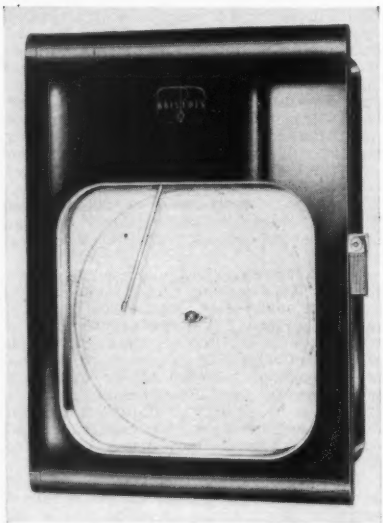
15-16 Scientific and Technical Building

In attendance

H. E. BEANE, F. W. BORCHERS, A. A. BLACKMAN, M. D. SHRIVER, E. NUBER, C. E. MASON, E. L. STILSON, E. A. MERWIN, WALT W. MESSNER, A. I. THOMPSON, G. P. LONERGAN.

Bristol Series 500 air-operated control system, recording flow meters, wide-strip Dynamaster resistance thermometer, Metameter system of telemetering, Metavane pneumatic transmission system, recording gages, air-operated controllers.

An operating model of the new Series 500 air-operated control system is on exhibit. Also in operation is a Bristol Metameter system of telemetering and a Metavane pneumatic transmission system, both for distant measurement and automatic control of pressure, flow, temperature, and liquid level. In addition there is a Bristol Wide-Strip Dynamaster resistance thermometer, and a Series 500 recording flowmeter, along with recording gages, and other types of Bristol air-operated controllers.



Bristol Series 500 recording instrument

(Check 75 for Further Data on Above)

Broderick & Bascom Rope Co.

St. Louis, Mo.

Block 6

In attendance

FRED ZIMMERMAN, KENNETH B. BRITT, GEORGE T. BORN, E. E. DEACON, L. R. SAUNDERS, J. J. SIEBER, F. L. MILLER, O. G. BAKER, J. G. GREGOR.

View of Broderick & Bascom display

A wire-rope strander and closing machine is on display. Also have an exhibition of braided slings such as are being furnished to the oil industry for pickup lines and other operations about the derrick and in the construction and operation of refineries.

(Check 76 for Further Data on Above)

Ralph N. Brodie Co.

Oakland, Calif.

54-55 California Building

In attendance

J. J. KROPP, PAUL RENFREW
EARL BRODIE

Positive-displacement meters, flow-control valves, remote recording instruments, air and vapor eliminators, strainers in sizes ranging from 1¼ to 8 in.

(Check 77 for Further Data on Above)

Brown Instrument Co.

Philadelphia, Pa.

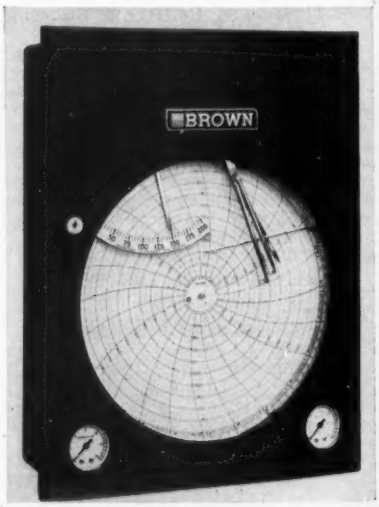
41-42-43 Scientific and Technical Building

In attendance

R. P. WALKER, H. C. HALL, J. F. SMITH.

Indicating and recording models of pneumatic Remoteset equipment, flow meters, liquid-level-control systems, indicating pneumatic flow transmitters, two-pen ratio flow controllers, ElectroniK pyrometers, Air-o-Line pressure and temperature controllers, integral control by-pass, Air-o-Larm system.

The RemoteSet featured in the display includes a remote index setting device for use with pneumatic transmission systems, capable of setting the control index of a distant controller. Outstanding features of the device lie in its speed of transmission,



Brown recording air-operating ratio controller

its stability, and accuracy of positioning.

The Air-o-Larm system exhibited is a pneumatically operated system used to operate an electric signaling or warning device at certain limiting pen positions. The electric switches are contained in an explosionproof housing, thus enabling them to be mounted in a hazardous area so as to give an "on the spot" warning.

(Check 78 for Further Data on Above)

Brown Oil Tools, Inc.

Houston, Tex.

22-23 Silver Lane

(Check 79 for Further Data on Above)

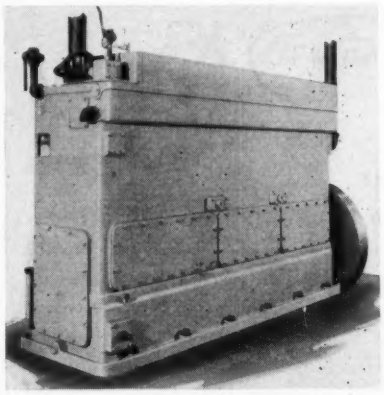
Bruce-Macbeth Engine Co.

Cleveland, Ohio

Block G

In attendance
MAX E. LANDRY, D. D. MACBETH
B. W. CHARLTON

A 175-hp. Bruce-Macbeth natural-gas engine, four cycle, five cylinder, vertical, 600 r.p.m., 9-in. bore, 10½-in. stroke, direct connected to 125 k.v.a., 100 kw. at 0.8 power factor, single bearing Westinghouse alternator with top-mounted V-belt-driven exciter.



Product of Bruce-Macbeth Engine Co.
(Check 80 for Further Data on Above)

Bryant Heater Co.,
Dresser Industries, Inc.

Block 11

(Check 81 for Further Data on Above)

Byron Jackson Co.

Los Angeles, Calif.

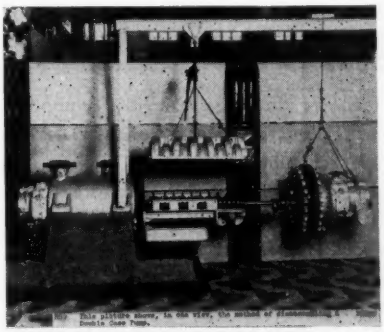
22-23-24-25-26-27 Oklahoma Building

In attendance
O. W. MORGAN, LYNN SAWYER

The Oil Tool Division has on display new pipe-handling oil-well tools, including: "Speed Trip" power slips; "Powair" tubing tong designed for production and workover crews; "Powair" combination spinning and makeup tong for casing and drill pipe; various types of BJ elevators including the new 75-ton center-latch slip casing elevator for 8° external upset integral joint casing; Super-Triplex line of hooks exhibited in a cutaway unit so that the operating features are demonstrated; BJ short upper eye weldless link; the new Stubby connector with 22¾ in. working length with 6 in. of spring travel; kelly bushings, one type with one wiper and another type with two wipers that has a grease-packed area between the upper and lower wipers; BJ portable weight indicator.

The Pump Division display includes a standard SM process stuffingboxless pump, and a "miniature" BJ double-case boiler-feed pump made of aluminum, both manufactured especially for the show. BJ's pneumatic sponge, a high-head pump for mopping up liquids carrying abrasive solids, is also shown, as is one of the new BJ Bilt-on pumps, close-coupled pump and motor units for general-purpose applications and designed with interchangeable parts.

(Check 82 for Further Data on Above)



This picture shows, in one view, the method of disassembling a double-case pump

Buckeye Tractor Ditcher Division,
Gar Wood Industries, Inc.

Block 13

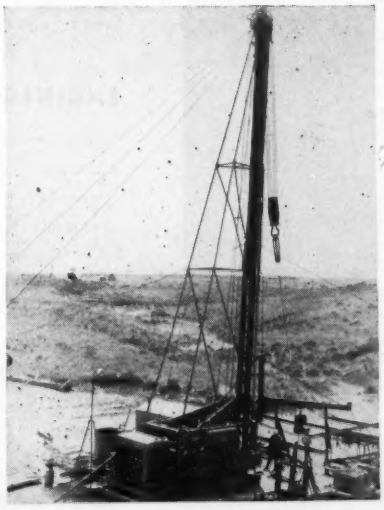
(Check 83 for Further Data on Above)

Bucyrus-Erie Co.

South Milwaukee, Wis.

Block 4

Two machines from the Bucyrus-Erie spudder line—the 36-L and 48-L are on display. The 36-L can drill top-to-bottom to a depth of 3,500 ft., maximum tool weight is 4,200 lb., and it can service wells to a depth of 4,000 ft. The 48-L has a maximum top-to-bottom drilling range of 6,000 ft., and can handle 6,000 lb. of tools, and handles well-servicing work to 7,000 ft. Exceptional mobility is featured in the design of the 36-L and 48-L. Location-to-location moves take a minimum of time because of single-unit construction and high-speed mountings —tapered-skid-type base for easy loading to oil-field trucks, or dual pneumatic-tired semitrailer mounting for fast towing.



Bucyrus-Erie 48-L spudder drilling top-to-bottom to 3,300 ft. near Pampa, Tex.

Five units of Bucyrus-Erie tractor equipment are also displayed in connection with the International Industrial Power exhibit. Attachments featured, all exclusively designed for use with International crawler tractors, include hydraulic-controlled Dozer-Shovels, for the TD-8 and TD-9 tractors; a hydraulic Bullgrader for the TD-9; and a cable bullgrader, with front-mounted P-15 power control winch, for the new TD-24 tractor.

(Check 84 for Further Data on Above)

Buda Co.

Harvey, Ill.

Block M

In attendance
H. H. COHENOUR, J. C. BASEHEART
C. E. WRIGHT, VIRGIL STOVER,
GEORGE TEMPLE

Production pumping engines, pipe-line gathering service engines, drilling engines, well-servicing engines, pipe-line pumping engines, hoisting engines, convertible oil-field engines, marine engines, oil-field lifting jacks, hydraulic earth drill, hydraulic universal diesel nozzle tester.

New products:

Model 6PCS-2505 supercharged natural-gas power unit. This is an eight-cylinder model with a bore of 6¾ in. and a stroke of 8¾ in. and a displacement of 2,505 cu. in. The engine has 410 b.hp. at 1,100 r.p.m. and a usable horsepower for drilling and hoisting service of 300 hp. at 900 r.p.m. This is an entirely new engine and belongs to the same series as the six-cylinder 1879 natural-gas engines.

Model 8MO-1290 natural-gas power unit. This is a new eight-cylinder engine with a bore of 5⅝ in. and a stroke of 6½ in. with a displacement of 1,290 cu. in. This engine is designed primarily for butane and natural-gas operation for pipe-line and gathering-system pumps and for drilling service.

Diesel-electric generator sets. A new line of diesel-electric generator sets from 2.5 to 125 kw. in d.c. or a.c., single and three-phase currents. These sets are complete units with an engine and generator mounted on structural-steel base and with a control panel mounted on top of the generator. The whole set is complete with nothing more to purchase except the batteries.

Model HBJ hydraulic earth drill. This is a new hydraulic earth drill mounted on a truck, complete with pole-setting winch.

B and BD series of engines. A complete line of two, four, and six-cylinder Buda engines—adaptable to gasoline, natural gas, butane, or diesel—with interchangeable parts and mounting. Rugged, compact, and easy to service—precision built. Valve-in-head design, precision bearings, removable wet-sleeve liners, positive force-feed lubrication. These power units are available in compact models for any fuel and are ideal for powering production pumps, gathering pumps, light plants, and other continuous-duty oil-field applications.

(Check 85 for Further Data on Above)

Burch Agate Torpedo

Borger, Tex.

81 Scientific and Technical Building

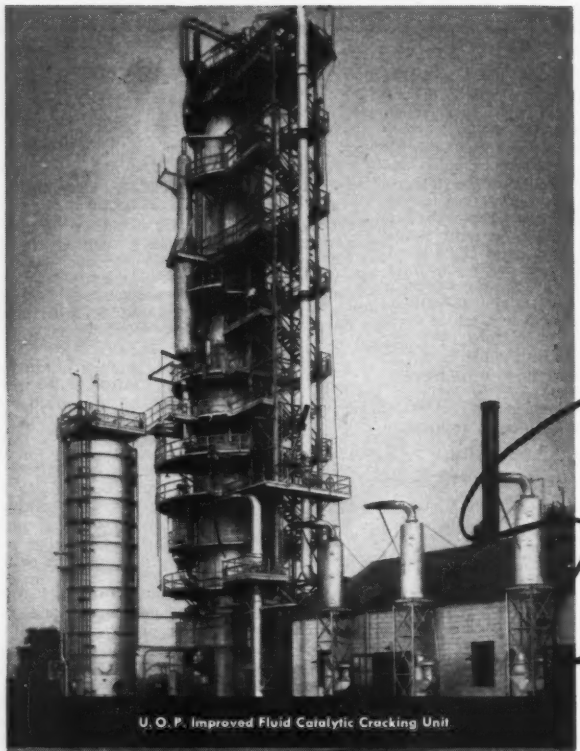
In attendance
J. GORDON BURCH, IOLA B. LAFFOON

Burch Agate Torpedo—"The Marble Shot" —is a tool for removing production barriers in oil and gas wells at a cost low enough to allow a profit even on marginal wells.

The torpedo consists of two thin aluminum tubes with glass marbles in the annular space between the 3-in. outer tube and the 1⅝-in. tube in the center which contains an explosive. For convenience it is made in 5-foot sections. The torpedo fires 242 marbles per linear foot into the bore formation. It holds only 4/10 qt. of explosive per linear foot, but it uses the energy effectively by harnessing it. The marbles convert the greater portion of the energy of the explosive into work which they perform in destroying the surface of the wall of the well.

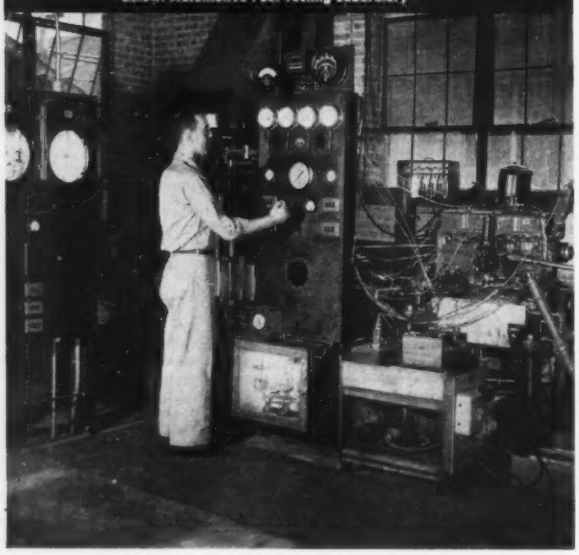
The torpedo weighs 4.5 lb. per foot completely assembled and can be run with standard shooting equipment in connected sections long enough to cover the pay. Tested in more than 3,000 wells, it offers operators a dependable reconditioning method at a low relative cost.

(Check 86 for Further Data on Above)



U. O. P. Improved Fluid Catalytic Cracking Unit

Above: The Universal Laboratories at Riverside, Ill.
Below: Automotive Fuel Testing Laboratory



SIX POINT PLAN FOR

PROCESSES:

For more than thirty years, UOP has been engaged in research and development for the purpose of improving refining processes. During these years UOP scientists have been responsible for many of the major improvements in refining processes including thermal cracking, catalytic cracking, polymerization, alkylation, isomerization, dehydrogenation, hydrogenation, and others. All of the processes which UOP develops are available to all refiners.

With this broad experience and wide range of processes available, UOP is in position to provide recommendations as to the process and equipment best suited to meet specific requirements.

ENGINEERING:

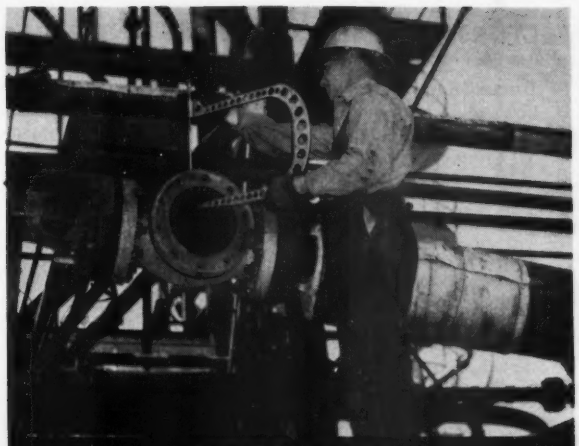
Whatever the problem may be . . . whether it involves a complete refinery, an entirely new process and new equipment, the modernization of existing equipment, or merely the solution to an operating problem . . . UOP engineers will make a complete and thorough study and analysis and recommend the proper steps to be taken.

Equipment will be designed to meet every requirement . . bills of material drawn up . . . and, if desired, engineers will actively cooperate with the contractor in supervising construction work.

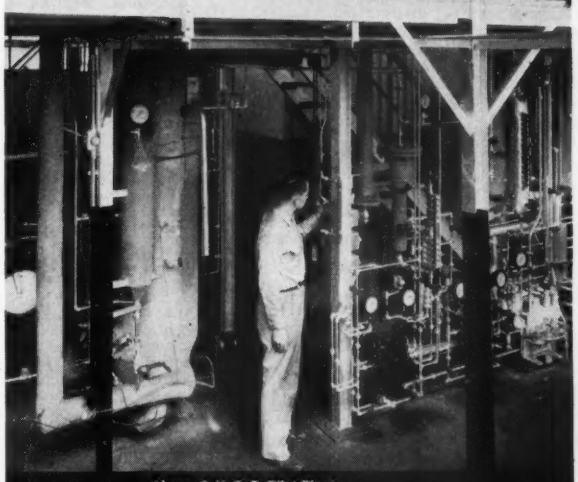
LABORATORY SERVICE:

UOP maintains one of the largest and best equipped petroleum research laboratories in the industry. It is manned by expert technologists . . . many of them the foremost in their fields. Here, research continues unceasingly. And here, too, the daily problems of UOP licensees are studied, analyzed, and solved. Special automotive and aircraft fuel testing laboratories are available and operated primarily for the licensees' benefit. Whatever the licensee's problem may be, this service is available for its solution.

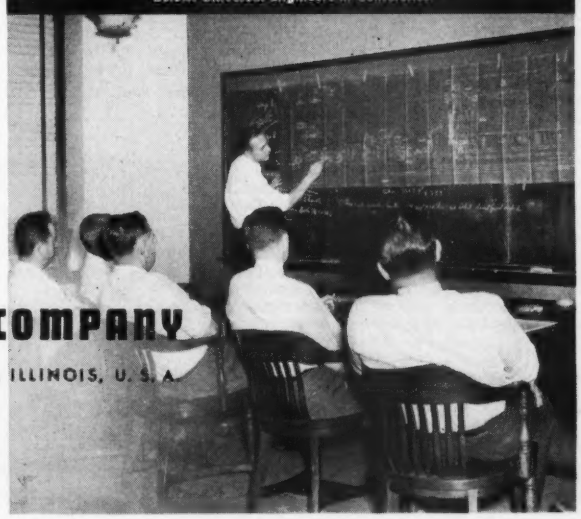
PETROLEUM *PROCESSING*



Universal Field Service Inspector



Above: A U.O.P. Pilot Plant
Below: Universal Engineers in Conference



SERVICING:

Perhaps the most important single function of this organization is the service which starts after a new unit goes on stream. From time to time, UOP Operating Specialists visit licensees' refineries to check on yield and efficiency and render counsel and advice. In addition UOP maintains a most efficient inspection organization of specially trained men who are continually in the field making physical inspection of licensed units. Heaters are inspected . . . lines are checked for signs of corrosion . . . pipe and vessel walls are calipered . . . valves are examined . . . fire hazards noted . . . every indication of weakness is explored. A complete report is then submitted together with recommendations for improving operating and safety efficiency.

OPERATOR INSTRUCTION:

Before a new unit is on stream, an intensive training program is instituted. UOP experts are on the job daily until it is certain that the licensee's operating men have a complete understanding of the functions and operation of the equipment and are fully competent to carry on.

ENGINEERING COUNSEL AND ADVICE

The services of the UOP Engineering Department are available to UOP licensees at all times. They will provide specifications for remodeling . . . recommend type of equipment best suited to specific jobs . . . and suggest sources of supply. This department is ready and willing to function as the licensee's own engineering department and is as close to him as his telephone.

UNIVERSAL OIL PRODUCTS COMPANY

General Offices: 310 S. MICHIGAN AVE. CHICAGO 4, ILLINOIS, U. S. A.

LABORATORIES: RIVERSIDE, ILLINOIS

Universal Service Protects Your Refinery

XUM

Butler Manufacturing Co.
Kansas City, Mo.

3-4-5-6 Kansas Building

In attendance

LOUIS BROWN, F. B. TODD, J. T. JENNINGS, JR.; F. A. McALLISTER, G. A. BURNS, ROBERT RICHARDSON, P. M. LOWRY, R. W. DOWNES, W. E. BOTZ, W. B. LARKIN, R. A. GASAL, G. C. SPEAKMAN, R. G. BLOOMER.

A Butler Blue Belle home gas system will be exhibited in the booths, and in addition a Butler rigid-frame steel building will be exhibited by Union Tank & Supply Co. Union Tank will also display a 500,000-B.t.u. oil-field heater and a 250-bbl. bolted steel tank, both manufactured by Butler.

In addition to this equipment, the booth background incorporates a display of pictures which illustrate the Butler products used in the oil industry.

(Check 87 for Further Data on Above)

B & W, Inc.
Houston, Tex.

16 Park Lane

In attendance

L. L. WALKER, K. A. WRIGHT

B & W cementing equipment, Multi-Flex scratchers, wall-cleaning guides, latch-on centralizers, rotating scratchers for cementing casing, placing cement plugs in open hole, and removal of mud cake behind the well strainer.

(Check 88 for Further Data on Above)

Cal-Fin Co.
South Pasadena, Calif.

25 Kansas Building

In attendance

G. M. JACKSON, HUGH KERR

Samples of Tilco fin tubing.

(Check 89 for Further Data on Above)

Camco, Inc.
Houston, Tex.

41 Silver Lane

In attendance

R. E. MORGAN, W. H. SEYFFERT, JR.

Camco flow valves of the bellows charged type and differential type, check valves, flow-valve mandrels, controllers (intermitters).

The Camco valves displayed are claimed to be simple and reliable in operation, as there is no seal or gasket to lock valve open. Camco-ized Bellows eliminates the need for bellows-protecting seals. The hermetically sealed bellows keeps its charge indefinitely without leakage and prevents change in valve setting with time. Valve opening pressure is easily and accurately adjusted by spring.

The Type "S" differential flow valve is a reliable, positive, and efficient differential-type flow valve. The Hycar seat assures positive tightness of shutoff, resulting in long life and economical operation. Removable gas-inlet orifices are wear resistant and permit economical repair of the valve. Changing of the size of gas-inlet orifice to meet individual well requirements is easily accomplished. The valve is securely locked in place on the mandrel and cannot become loose in the well.

The time-cycle controller has an additional element—a bourbon tube actuated by tubing pressure to stop the injection of gas when the tubing pressure exceeds a predetermined amount. This automatically restarts the reinjection of gas when the well stops heading or ceases to flow naturally.

(Check 90 for Further Data on Above)

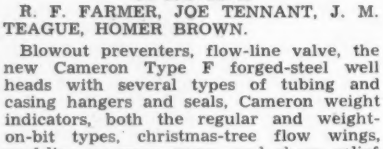
Cameron Iron Works, Inc.
Houston, Tex.

225-226-227-228 Oklahoma Building

In attendance

R. F. FARMER, JOE TENNANT, J. M. TEAGUE, HOMER BROWN.

Blowout preventers, flow-line valve, the new Cameron Type F forged-steel well heads with several types of tubing and casing hangers and seals, Cameron weight indicators, both the regular and weight-on-bit types, christmas-tree flow wings, mud-line pressure gages, and shear relief valves.



This Cameron Type QRC pressure-operated blowout preventer, with section cut away to reveal its design and to permit visitors to observe the actual operation of the blowout preventer, will be a feature of the Cameron exhibit. Numerous other Cameron products, with sections cut away in this manner, will be included in the Cameron display

(Check 91 for Further Data on Above)

Cardwell Manufacturing Co.
Wichita, Kans.

Block Q

In attendance

ROBERT M. SMITH, HARLAND CARDWELL, JR.; JAMES HERRICK, W. O. TIMBERLAKE.

Trailerig — Complete twin-engine draw works and mast in one unit, Model "O" draw works equipped with Cardwell air clutches, Model "O" draw works equipped with manual controlled clutches, Model "S" draw works equipped with Cardwell air clutches, Model "L" draw works equipped with Cardwell air clutches, Model "R" three-drum cable-tool top-to-bottom drilling machine with mast equipped with shock-absorber head, Model "R" double-drum combination beam and rotary unit, Mobilhoist equipped with Cardwell air clutches, and Model "H" single-drum servicing hoist.

(Check 92 for Further Data on Above)

Cardwell Trailerig powered by two WAK Waukesha engines with double drum draw works and 90-ft. mast

Canedy Otto Manufacturing Co.
Chicago Heights, Ill.

35 Park Lane

In attendance

M. M. DAVIS, M. K. CAMERON

Drill presses and radial drills of proportionate, revolutionary design. Tools of this type have been in demand by industry for many years, this company being the first to facilitate such requirements.

(Check 93 for Further Data on Above)

Catawissa Valve & Fittings Co.
Catawissa, Pa.

28-29 Oklahoma Building

In attendance

H. BLAIN LACY, H. N. DAVIS
F. M. LONG, C. L. DAVIS

Forged-steel pipe unions, forged-steel lug-nut pipe unions, stainless-steel pipe unions, iron body and forged-steel union swing check valves (full opening).

(Check 94 for Further Data on Above)

Caterpillar Tractor Co.
Peoria, Ill.

Blocks C and E

In attendance

C. E. JONES

"Caterpillar" diesel D8 track-type tractor, equipped with Trackson pipe layer.
"Caterpillar" diesel D8 track-type tractor, equipped with "Caterpillar" cable-controlled No. 8S bulldozer and Hyster towing winch.
"Caterpillar" diesel D7 track-type tractor, equipped with "Caterpillar" hydraulic controlled No. 7S bulldozer and worm-drive winch.
"Caterpillar" diesel No. 12 motor grader.
"Caterpillar" diesel D17000 engine.
"Caterpillar" diesel D13000 engine, marine engine and electric set.
"Caterpillar" diesel D13000 engine with dual fuel attachment.
"Caterpillar" diesel D8800 engine.
"Caterpillar" D318 diesel-electric set.
"Caterpillar" diesel D315 engine.
"Caterpillar" D311 diesel electric set.

(Check 95 for Further Data on Above)

Cathodic Servicing Co.
Oklahoma City, Okla.

Good-All Electric Mfg. Co.
Ogallala, Neb.

18 Park Lane

In attendance

MILES N. CARMICHAEL, T. M. RISELING, LYLE R. SMITH

Good-All cathodic protection rectifiers (self-cooled and oil-immersed models); cathodic servicing system of cathodic application to steel water-storage tanks.

(Check 96 for Further Data on Above)

Cavins Co.
Long Beach, Calif.

31 Park Lane

In attendance

WALDO MOORE, PAUL CAVINS, FRANK JONES

Automatic hydraulic suction bailer and fishing tool, drill pipe fishing tool, sand pump, perforation washer, cement dump bottom, bridging plug, quick change rope socket, depthometer.

(Check 97 for Further Data on Above)

Century Geophysical Corp.

Tulsa, Okla.

62 Scientific and Technical Building
Block 104

In attendance

OPIE DIMMICK, M. E. MORROW, E. J. HANDLEY, CHAS. HENDRICKS, J. A. STAFFORD, C. C. HUTCHINSON, A. V. SIMONSON, D. R. WEICHERT, G. R. MORROW.

Seismic recording equipment, portable shot-hole and core drills, dynamite-shooting trucks and equipment, drill-servicing units, and miscellaneous seismic equipment.

The inside display includes reflection-refraction seismograph recording equipment of the truck-mounted type as well as an innovation in the field of portable seismograph equipment. Special displays of the Century galvanometer and other Century products are proudly presented.

An outside panorama of Century truck-mounted equipment includes a new type all-hydraulic shot-hole and core drill, drilling-truck service equipment, dynamite-shooting truck and equipment, and a Century recording truck.

(Check 98 for Further Data on Above)

Chain Belt Co.

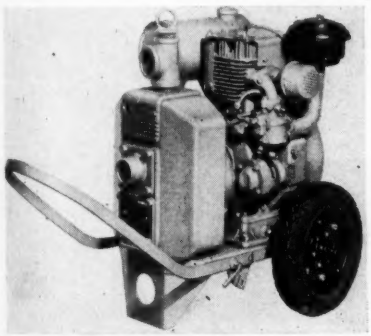
Milwaukee, Wis.

70-71 Texas Building

In attendance

BRINTON WELSER, GEORGE FLANNIGAN, GEORGE WOODLAND, MAURICE JEWETT, JOE ROBERTS, BILL KLEMME, AL CALKINS, ED RHODES, HERMAN KLAUKE.

Rex oil-field chains, Baldwin-Rex roller chains and flexible couplings, Rex oil-field pumps.



Rex Easy-Flow pump

In addition to the equipment on display, a slide projector is in operation illustrating the company's products.

(Check 99 for Further Data on Above)

Chapman Valve Manufacturing Co.

Indian Orchard, Mass.

24-25-26 Texas Building

In attendance

ERNEST COCHRAN, GEORGE E. FOX, FRANK HUNTER

Valve for general oil service, including special 50-in. slide valve for fluid catalytic cracking.

(Check 100 for Further Data on Above)

Chase Brass & Copper Co.

Waterbury, Conn.

76-77 Texas Building

In attendance

H. P. CROFT, W. J. WEIR, W. E. EVANS, L. J. VOGLER, P. D. EVANS, N. W. MITCHELL, J. J. VREELAND.

Antimonial admiralty, copper tube, cupronickel tube, bimetal tube, red brass pipe, ventilated bus bar, copper hammers, copper nails, brass lag screws, silicon bronze bolts and nuts, bare copper wire, and magnet wire.

Chase antimonial admiralty, a patented Chase alloy for heat exchangers and condenser tubes, is the highlight of the exhibit. Advantages of Chase antimonial admiralty will be shown, also actual samples demonstrating its resistance to dezincification and longer tube life.

Also on exhibit is Chase cupro-nickel, 30 per cent condenser tubes, and Chase bimetal tubes for use in special corrosive problems confronting the oil industry. Chase red brass pipe rounds out the major portion of the exhibit.

(Check 101 for Further Data on Above)

Chemical Process Co., Division Independent Eastern Torpedo Co.

Breckenridge, Tex.

Across alley from Oklahoma Building

In attendance

M. E. CHAPMAN, W. M. McFARLAND, J. ROY DERRICK

Exhibiting latest type of oil and gas-well shooting and acidizing equipment.

(Check 102 for Further Data on Above)

Chevrolet Motor Division, General Motors Corp.

Oklahoma City, Okla.

Outside Hall of Science

In attendance

J. Y. LITTLETON

Chevrolet twin-engine 200-hp. oil-field special tractor (premiere showing); 6 by 6 oil-field special heavy-duty long-wheel-base truck; advance design truck, 161-in. wheel base; Suburban Carry-All; 160-in. wheel-base truck with 4-wheel drive; 200-in. wheel-base truck with tandem rear-wheel drive; 200-in. wheel-base truck with trailing axle; four-speed synchro-mesh transmission.

The twin-engine, twin-transmission, oil-field special is an entirely new heavy-duty truck tractor. Unit designed and built for oil-field heavy-duty hauling and general hauling requirements where maximum horsepower and load-carrying capacity is desired combined with minimum operation cost.

The Chevrolet 6 by 6 truck is to be used where operators desire the maximum in carrying capacity and where the terrain is such that the requirements of added floatation and maximum traction are needed. This unit is composed of a standard heavy-duty Chevrolet truck with fabco tandem-drive rear axle combined with transfer case, and Coleman front-wheel drive unit.

The tandem-drive Chevrolet trucks, trailing third-axle Chevrolet trucks and conventional model Chevrolet trucks on display are the latest in design featuring the new synchro-mesh four-speed transmission and other major improvements. In the display are special exhibits of oil-field drilling and servicing equipment, semitrailers, and floats for moving heavy-duty equipment furnished by allied manufacturers.

(Check 103 for Further Data on Above)

Chicago Bridge & Iron Co.

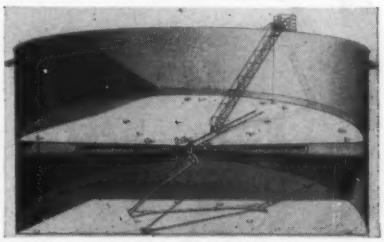
Chicago, Ill.

85-86 Texas Building

In attendance

E. P. SHELTON, R. A. JACKSON, M. G. MITCHELL, S. C. HAMILTON, C. M. ORR, W. D. ROBINSON, D. A. LEACH.

Horton double-deck floating roof, Horton liquid-seal lifter roof, Vaporsphere, Hortonsphere, Hortonspheroid.



Cutaway view of a Horton double-deck floating roof. A section of the roof showing the Horton Seal, with pantograph hanger, will be on exhibit

(Check 104 for Further Data on Above)

Chicago Pneumatic Tool Co.

Oklahoma City, Okla.

14-15 California Building

In attendance

E. L. MILLER, D. P. TARPENNING, J. B. STEEN, F. A. WYCOFF, L. W. CHADDERDON, ORVILLE KELLER.

Three-cone rock bits, reaming bits, reamers, tool joints.

The exhibit features the Type E three-cone rock bit. This bit is displayed in the ES type for shale and other softer formations and the EM type for lime, hard shales, and broken formations. The Type E bit, developed since the last oil show, is rapidly growing in popularity due to its long bearing life and fast drilling speed in various formations and under all drilling conditions.

Other items in the exhibit are the Type C-1 three-cutter reaming bit, the Type B reamer, and the C.P. tool joint.

Also on display are air-impact wrenches, air and electric drills, utility winches, pneumatic chippers and scalers, and a new two-stage air compressor.

(Check 105 for Further Data on Above)

Chiksan Co.

Brea, Calif.

52-53 California Building

In attendance

L. J. LAIRD

Chiksan ball-bearing swivel-joint samples, Well Equipment Manufacturing Corp. union samples, Okadee loading-rack valve samples.

(Check 106 for Further Data on Above)

Christensen Diamond Products Co.

Salt Lake City, Utah

Block 12

In attendance

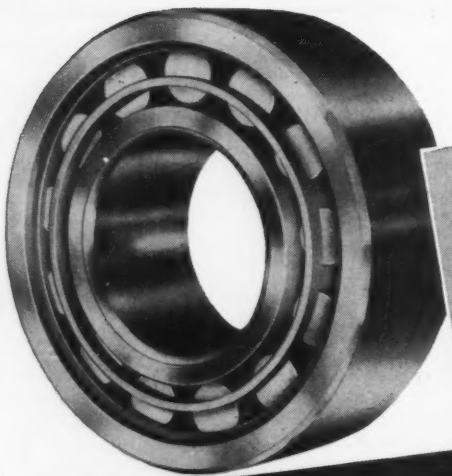
WILLIAM I. HARRIS, ROBERT L. POUNDSTONE, JAMES WHITAKER, JAMES EMRICK, CECIL SMITH, FRANK L. CHRISTENSEN.

Various types of diamond core heads, core samples from many sections of the country, a complete double-tube, swivel-type core barrel.

The use of diamond core drilling in the oil industry is largely due to the efforts of oil-field engineers in Rangely, Colorado, field, to find a more economical means by which to penetrate the producing formation, or Weber sandstone, in that area. The items displayed in this exhibit represent the most recent improvements in equipment which have been used successfully throughout the United States and in several foreign countries.

(Check 107 for Further Data on Above)

XUM



AMERICAN Stamped Steel Retainer Type BEARING

AMERICAN Bronze Cage Type Radial BEARING

A COMPLETE LINE
for every heavy-duty radial roller bearing need

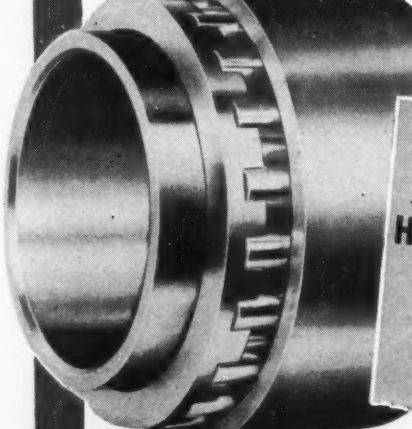
AMERICAN Non-Skew Needle BEARING

FOR 29 years American Roller Bearing Company has been supplying the oil country's need for heavy duty roller bearings. In that period an enviable record has been established, attested by the fact that practically every major manufacturer of drilling equipment uses *Americans* and *once adopted, no manufacturer has ever had to switch from Americans!*

Always good, American Roller Bearings have continued to improve from year to year as new engineering features and additional styles have been evolved.

See them all at the International Petroleum Exposition:

BOOTHS 20-21 SILVER LANE



AMERICAN Medium, Heavy and Super Heavy-Duty Type BEARINGS

AMERICAN ROLLER BEARING CO.

416-420 Melwood Avenue • Pittsburgh 13, Pa.

Chromium Plating Co.

Tulsa, Okla.

42 Kansas Building

In attendance
SIDNEY COLCORD.

Exhibiting various pieces of oil-field equipment, demonstrating the application of hard chrome plating for corrosion and wear resistance. Also the use of nickel, copper, cadmium, silver, and black finishes for research, exploration, and production equipment.

(Check 108 for Further Data on Above)

Chrysler Corp., Dodge Division

Detroit, Mich.

Block 10

In attendance
L. F. VanNORTWICK, G. W. MALCOMSON, HERMAN R. UDE, W. O. DuMAR.

Dodge Power Wagon equipment with Century drill.

KA-152 2-ton chassis and cab equipped as a mobile drilling rig.

Power Wagon with split-shaft power takeoff and Davey air compressor.

Model VA-172 3-ton chassis and cab equipped with Couse mobile machine shop.

Model KMA-161 cab-over-engine equipped with tank body.

A 3-ton 136-in. wheelbase chassis and cab equipped as a tractor.

Model B-108 ½-ton express.

(Check 109 for Further Data on Above)

Clark Bros. Co., Inc.

Olean, N. Y.

Block 11

In attendance
C. P. CLARK, D. K. HUTCHCRAFT, F. W. LAVERTY, GEORGE PROBST, FRED HAYES, JOHN L. YORK

1. The Clark 2-cycle, semiportable, "Midget Angle," gas-engine-driven compressor, a skid-mounted, 8-cylinder, 300-b.hp. gas-engine-driven semiportable compressor. It is shipped complete ready for operation. It is sufficiently rugged for stationary duty and if desired can be shipped without the skid mountings for installation on permanent foundation for stationary work. As a skid-mounted unit, it is light enough for portable service. The unit is shown in actual operation.

2. The Clark multistage, centrifugal compressor, so designed by series and parallel arrangement that virtually any capacity or pressure requirements can be accommodated. These compressors, employing from three to seven impellers per stage, are for capacities from 1,500 to 120,000 cu. ft. per minute with discharge pressures up to 500 lb. Horsepower requirements to meet the above conditions will vary from 500 to 24,000 hp. Capacities up to 550 million standard cubic feet per day at line-station pressures of 1,000 lb. maximum, are accommodated by series and parallel arrangements of the Clark centrifugals.

(Check 110 for Further Data on Above)

Clark Manufacturing Co.

Cleveland, Ohio

15 Park Lane

In attendance
JOHN L. MAINWARING, WM. P. WEBSTER

All types of steam traps and pressure regulators.

Clark Manufacturing Co. for over 39 years has designed, engineered, and manufactured a complete line of steam specialties, which includes inverted-bucket, open-bucket, float-type and separating traps for air, steam, oil or gas. In addition, there are vacuum traps, lifting or pumping traps, pressure regulators, strainers, separators and liquid-level controls. Some of these products have been designed specifically for the oil industry and have enjoyed excellent acceptance by their users in the field.

Simplicity of design, combined with sturdiness in construction, has resulted in longer life, lower maintenance cost, and a minimum of replacement cost for the industry.

These high-quality products are backed up by an active national selling organization composed of highly qualified representatives who are always available for technical assistance in the field. In addition, ample stocks of these products are being maintained by leading distributors throughout the country.

(Check 111 for Further Data on Above)

Cleveland Diesel Engine Division, General Motors Corp.

Cleveland, Ohio

Block 10

In attendance
ARCH F. CAMPBELL, T. E. HUGHES, B. H. GOMMEL, R. S. RAMSAY

G.M.C. six-cylinder diesel engine, rated 540 b.hp. at 750 r.p.m. engine speed, equipped with radiator cooling and Airflex clutch power take off; eight-cylinder diesel engine rated 720 b.hp. at 750 r.p.m. engine speed; 12-cylinder diesel engine rated 1,080 b.hp. at 750 r.p.m. engine speed.

To demonstrate the simplicity and smoothness of operation of the Model 567B engine and its adaptability to oil-field operation, a six-cylinder model, rated 540 b.hp. at 750 r.p.m., is set up complete for actual operation, equipped with Airflex clutch and drive shaft mounted on the power-take-off end of the engine to supply power to drilling rigs, mud pump, or pipe-line pumps, and a power takeoff with pedestal bearing and driving sheave for belt-driving the radiator fan from the front end of the engine.

Visitors may start and operate this engine by compressed air and the touch of a button.

In addition to the six-cylinder operating unit there are displayed a G.M.C. eight-cylinder Model 567B diesel engine rated 720 b.hp. at 750 r.p.m. engine speed, as well as a G.M.C. 12-cylinder Model 567B diesel engine rated 1,080 b.hp. at 750 r.p.m. engine speed.

The 567B Series engines are famous Streamliner diesels which have set a record on the railroads of America. They also powered the majority of the U. S. Navy Tank Landing Ships. They are now available for deep-well drilling in the oil fields having flexibility needed for the draw works, a wide range of speeds to drive the rotary table, and a margin of power to also drive miscellaneous pumps, mixers, and generators.

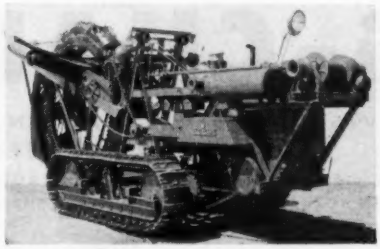
(Check 112 for Further Data on Above)

Cleveland Trencher Co.

Cleveland, Ohio.

Block P

In attendance
VINCENT PENOTE, JOHN PENOTE, J. ROY OVERS, N. V. GRUND, N. J. GREENEY, A. R. ASKUE, J. N. DODDS, F. N. FETZNER.



View of a Cleveland Trencher

This display shows Cleveland Trencher Models 140, 320, and 110. Also on display is the new model trailer T-10.

(Check 113 for Further Data on Above)

Climax Engineering Co. Controls Division

Tulsa, Okla.

83-84-127-128 Texas Building

In attendance
JIMMY DVORACEK, PAUL E. BOWLES, J. E. WALKER, T. F. CASEY, JR.; A. J. HANSSEN, R. G. THOMPSON, W. A. OBERHOLTZER, C. O. BLOOMFIELD, GEORGE PARKER

Oil and gas separator, pressure controllers, liquid-level controls, drainers, regulators, liquefied-gas equipment, time-cycle controllers, load binders.

Exhibiting a 500-lb. w.-p. oil and gas separator fully equipped with Climax controls featuring the Type 850 liquid-level controller which eliminates friction and prevents leaky stuffing boxes, thus avoiding freezeup on high-pressure separators. This controller pioneered by the company was first introduced to the oil industry in 1939. Its popularity caused Climax to be the first to standardize on this controller for oil and gas separators. Also on exhibit are the 1400 pressure controller and the newly developed Lyne 1515 reversible top works control valve.

(Check 114 for Further Data on Above)

Continental Motors Corp.

Dallas, Tex.

Block P

In attendance
BERT BRANDANA, GENE HANES

Exhibiting Continental Motors models: HD-260 cut-a-way diesel engine, F226 cut-a-way gasoline engine, R600 power unit, GD157 diesel engine, B427 oil-field engine, Y112 power unit, F226 show engine, PR501 power unit, three Continental "Tiny Tim" light plants and battery chargers, AA-7 air-cooled engine, and a Multi-tool.

There are 58 basic models, ranging from ½ to 140 hp., in the Continental Red Seal line for farm and industrial use. These basic models, moreover, are built to more than 1,000 different specifications, making it possible to match the engine to the job, and still take advantage of the savings attained through mass production.

(Check 115 for Further Data on Above)

Continental Supply Co.

Dallas, Tex.

Blocks 6-7-8

In attendance
W. J. MORRIS, F. M. MAYER, F. I. BRINEGAR, D. D. DELLINGER, N. A. ENDICOTT, C. L. VICKERS, T. K. CHERRY, C. N. SWANSON, R. E. F. SCHMID, C. R. GARTRELL, J. A. MUSSLER, A. J. OLSON, J. C. SLONNEGER, E. M. FETZER, JACK A. DAVIS, J. A. WHITESIDES, DAN G. WEBSTER, JR.; JULIO ZUMETA, C. J. DELAY, J. R. CHAPMAN, R. A. BREWER, R. L. COLLIER, W. G. FITZPATRICK, E. N. WOOD, CHARLES H. FISCHER, W. R. GOTTSHALL, M. W. McCLURE, W. T. HAYS, T. H. FRASER, A. P. LACEY, E. E. TYER, RALEIGH HORTENSTINE, L. C. JUDY, WILLIAM D. CRAIG, B. L. HINDMAN, F. J. LAFITTE, H. E. LOWREY, W. B. CHAPMAN, DWIGHT A. DAVIS, C. E. DURLEY.

Inside exhibits:

Broderick & Bascom Rope Co., wire rope.

D & B Pump & Supply Co., subsurface equipment.

PIPE-BURSTING PRESSURES
can't cause these joints to leak

Joint leakage is a thing of the past when your strings are made up with Spang Extreme Line Casing. Pressures great enough to collapse or burst the body of the casing *will not produce leakage* in Spang Extreme Line Joints—even when the string is subjected to heavy loads in tension, compression or bending.

This positive resistance to leakage is due to a specially designed and accurately machined cone and radius seal on Extreme Line Joints. This surface absolutely relieves threads of the necessity of resisting leakage—they serve only as a means of make-up and as a mechanical interlock.

Write for your *free* copy of "Spang Extreme Line Casing." It's a fully illustrated, 20-page bulletin packed with facts that tell how Extreme Line Casing can save you time and money.

SPANG-CHALFANT

DIVISION OF THE NATIONAL SUPPLY COMPANY
GENERAL SALES OFFICE: PITTSBURGH, PA.

DISTRICT SALES OFFICES: ATLANTA; BOSTON; CHICAGO; DENVER; DETROIT, HOUSTON; LOS ANGELES; NEW YORK; PHILADELPHIA; PITTSBURGH; ST. LOUIS; SAN FRANCISCO; TULSA

FOR DRILLING ★ THE INDUSTRY'S MOST COMPLET

Dayton Rubber Co., V-belts.
Lunkenheimer Co., valves, cocks, whistles.
Clayton Mark & Co., unions.
New Bedford Cordage Co., Cordage.
New York Belting & Packing Co., hose, belting and packing.
Youngstown Sheet & Tube Co., drill pipe, tubing and casing.
Outside exhibits:
Emsco J-1600 drilling rig and GA-350 drilling rig, rotary machine, crown and traveling blocks, reverse gear, combination traveling block and hook.
Gardner-Denver H.P. plunger-type power pumps; Martin-Decker Drillogger; G.E. generating outfit for auxiliary power on drilling rig and automatic bit-weight control and feed-off device.
G.M. Series 71 "Quad" drilling engine; Le Roi drilling engine; Climax drilling engine; Waukesha drilling engine; Maxim heat-recovery silencers; Nordstrom Merchrome-lined valves.
CSCO pumping engines; Emsco unit pumpers, pumping units, portable light plant, sump pump, Skildrill, Skilsaw, Skilsander.

(Check 116 for Further Data on Above)

Coffing Hoist Co.

Danville, Ill.

12 Silver Lane

In attendance
J. R. COFFING, RAY DOAN

Complete line of Coffing products: "Safety-Pull" ratchet lever hoists, capacities from ¾ to 16 tons; "Quik-Lift" electric hoists, 17 different models and lifting speeds; Coffing hoist-jack, a new and different tool for all kinds of lifting, jacking, and pulling jobs, built in 1,000 and 2,000-lb. capacities; Model Y-C spur geared chain hoists in capacities from ½ to 5 tons; safety load binders for booming pipe, poles, etc., two models; I-beam trolleys and differential chain hoists.

(Check 117 for Further Data on Above)

Cook Electric Co.

Chicago, Ill.

17 Kansas Building

In attendance
R. T. MATHIAS

Packless expansion joints.

(Check 118 for Further Data on Above)

C. Lee Cook Manufacturing Co.

Louisville, Ky.

51-52 Texas Building

In attendance
W. WOOBANK, T. F. HUDGINS, F. BLACK, W. MAYO, C. J. KREMER, ROBERT E. KIRN.

Cook's metallic rod packings, Cook's graphitic iron piston rings.

(Check 119 for Further Data on Above)

Cooper-Bessemer Corp.

Mount Vernon, Ohio.

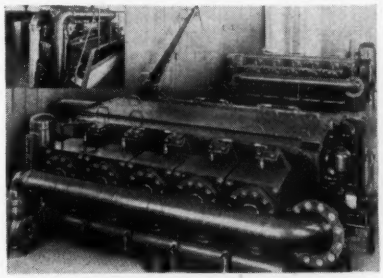
Block G

In attendance
B. L. POTTER

Ten-cylinder Type GMW gas-diesel, two-cycle compressor driving three conpressor cylinders; Twin-Line six-cylinder liquid pump; Type GMX compressor.

Displaying the largest engine-driven angle compressor in the world, the new 10-cylinder Type GMW, gas-diesel, 2-cycle, angle compressor, driving three compressor cylinders; 18-in. bore, 20-in. stroke, rated 240 hp. per cylinder at speed of 250 r.p.m. Available in 6, 8, and 10-cylinder sizes. Can be operated as a straight gas engine, straight diesel, or as gas-diesel. Suitable for gas-transmission and processing industries.

Twin-Line 6-cylinder liquid pump, offering great flexibility in handling a variety of liquids at volumes up to 64,000 bbl. per day at pressures up to 2,000 psi., applicable to oil pipe lines, pressure-maintenance by water injection in oil production, water flooding, lean-oil pumping in



The Cooper-Bessemer Twin-Line, six-cylinder liquid pump which offers flexibility in handling a variety of liquids at volumes up to 64,000 bbl. per day at pressures up to 2,000 psi. This is one of three pieces of oil-field equipment that will be on display at the Tulsa show

absorption plants, hot and cold oil-charging service in oil refining, and high-pressure boiler feeding.

The Type GMX compressors exhibited is equipped with horizontal compressor cylinders with V-type power cylinders in the same vertical plane, offering compactness and space economy to as much as one-third of that required for vertical compressor units of equal power. Available in four, six, and eight cylinder sizes. Rated at 50 hp. per cylinder at 400 r.p.m.; for power requirements ranging from 200 to 400 hp. The GMX is direct-connected to the liquid pump while simultaneously driving to compressor cylinders.

(Check 120 for Further Data on Above)

Fred E. Cooper, Inc.

Tulsa, Okla.

Blocks A, B, and D

In attendance
HAROLD E. COOPER, H. B. BLOXOM, C. F. NELSON, RAY KAIB, H. R. KRAMP, E. E. EVERSON, B. R. WIGGINS.

Allis-Chalmers-Fred E. Cooper drilling and well-servicing machines:
L844-42 single-drum tractor; L844-52 single-drum skid with rotary; L844-42 double-drum skid; E single-drum tractor with rotary and front controls; E double-drum tractor with spudder and mast; E single-drum skid with seat controls; E double-drum skid with front controls and cross-arm spudder; M single-drum tractor with seat controls and cab; M double-drum tractor with front controls, spudder and mast; W single-drum tractor with seat controls; W double-drum tractor with wide front axle; W single-drum skid with seat controls; W double-drum skid with jerkline spudder.

Also a complete line of Allis-Chalmers oil-field power units.

The Fred E. Cooper-Allis-Chalmers line of equipment developed and built by the originator of mobile oil-field servicing equipment, has been serving the oil industries needs for the past 30 years. The equipment on display covers a line wide enough in range to service the shallow wells of yesterday as well as the deep wells of tomorrow. This line of equipment is the result of 30 years of actual experience in building this type of equipment as well as the ingenuity of both the engineering staffs of the Allis-Chalmers Manufacturing Co. and Fred E. Cooper.

(Check 121 for Further Data on Above)

Allis-Chalmers single-drum well-servicing winch-tractor

Core Laboratories, Inc.

Dallas, Tex.

4 Scientific and Technical Building

In attendance
W. H. DAVISON, J. D. WISENBAKER, R. S. BYNUM, R. W. PARNELL, T. L. KENNERLY, J. W. BARBOUR, W. E. STILES.

Exhibit consists of an 11-ft. mural depicting the various services available for the determination of basic reservoir data and the application of these data to the engineered development and control of oil and gas reservoirs. Typical curves; a visual demonstration of porosity and permeability ("the bubbling core"); a special freeze box containing frozen cores; and actual core samples of varying characteristics obtained from many different geological areas in the United States are also displayed.

(Check 122 for Further Data on Above)

Core Recorder, Inc.

Tulsa, Okla.

26 Kansas Building

(Check 123 for Further Data on Above)

C-O-Two Fire Equipment Co.

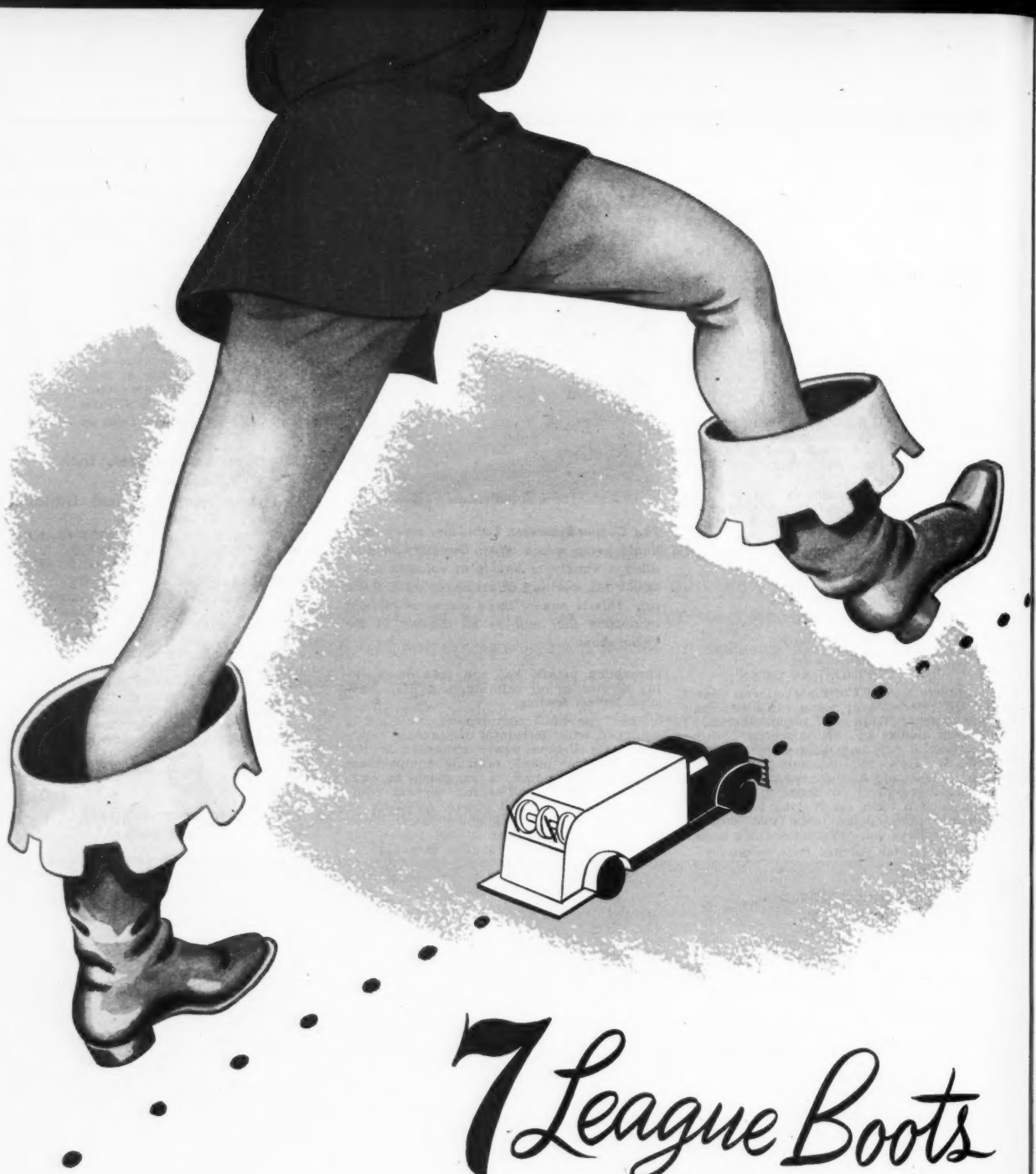
Newark, N. J.

39 Oklahoma Building

C-O-Two hand portable fire extinguishers. "Fire and Ice," a technicolor motion picture, shows how C-O-Two fire extinguishers are manufactured as well as the many uses of hand portables, wheeled portables, hose-rack units and builtin systems. C-O-Two smoke-detecting systems are also shown, including many exciting and hazardous fires common to industrial plants being extinguished with C-O-Two automatically operated systems. A continuous projector enables visitors to see the film at any time.

(Check 124 for Further Data on Above)

Hand-portable, 15-lb. size fire extinguisher



7 League Boots

WITH THE CENTURY 24 TRACE SEISMIC EQUIPMENT

Century

CENTURY GEOPHYSICAL CORP.

TULSA, OKLAHOMA

NEW YORK
149 Broadway

HOUSTON
Niels-Esperson
Building

Century Geophysical Corporation provides maximum linear coverage at minimum cost per profile. Century's own contract crews use this same fine equipment that is available to the industry.

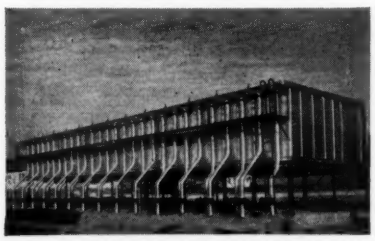
Joseph A. Coy Company, Inc.

Tulsa, Okla.

63-64 Scientific and Technical Building

In attendance
JOSEPH A. COY, HUGH R. LAMBERTH, A. D. PAYNE, V. B. SCOTT

Atmospheric sections: (1) Stratube, water cooled; (2) PowAirFin, air cooled.



PowAirFin—a finned-tube air-cooled heat exchanger for working pressures up to 5,000 psig. for all typical cooling and condensing services, including gasoline plants, cycling plants, refineries, and pipe-line stations

(Check 125 for Further Data on Above)

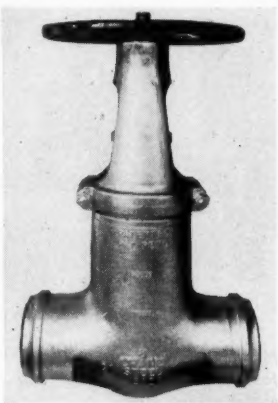
Crane Co.

Chicago, Ill.

196-197-254-255 Oklahoma Building

In attendance
F. J. WILKEY, R. A. HENDRICKSON, ERIC R. SEABLOOM, A. H. HAHN, R. O. BRENDEL, R. G. HUNTER, VERNON KORNHAUS.

On display are the new No. 3602 steel valves, the 600-lb. line of cast and forged-steel valves, some 6-in. iron valves, a 6-in. pressure-seal bonnet valve in cross-section,



Valve from the Crane line

and a large pipe coil to indicate Crane's piping fabrication facilities. Two motor-operated valves are on display—a 6-in. 33X air-motor-operated valve for 900-lb. service, and a 6-in. 76U electric-motor-operated valve for 600-lb. service. Both valves are connected to a remote control panel, which enables visitors to operate them.

(Check 126 for Further Data on Above)

Crescent Tool Co.

Long Beach, Calif.

Block 12

In attendance
PAUL J. POWERS, E. N. PALSGROVE

Hydraulic "A" frame boom, mounted on 2-ton Dodge truck.

(Check 127 for Further Data on Above)

Crosby Steam Gage & Valve Co.

Boston, Mass.

45-46-57-58 Scientific and Technical Building

In attendance
ERLING KLAFSTAD

Safety and relief valves; pressure gages.

(Check 128 for Further Data on Above)

M. J. Crose Manufacturing Co., Inc.

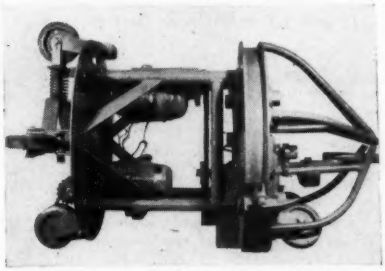
Tulsa, Okla.

East of Kansas Building

In attendance
D. M. CURRAN

Cleaning machines, self-propelled power unit, stationary pipe-cleaning and priming machine, stationary pipe-coating and wrapping machine, hand-operated internal lineup clamp, electrically operated internal lineup clamp, new model holiday detector, coating kettle, road-boring machine, Vitron underground pipe wrap.

The display features an electrically operated internal lineup clamp for pipe-line welding to give a smooth internal wall at the weld. Continuous stringer bead eliminates tacking thereby producing better welding and is faster to use than the outside-type clamp particularly on large-diameter pipe. This clamp aligns the pipe and swabs the inside of the pipe in one operation. It automatically places "egged" or bent pipe in round when making the alignment.



Electrically operated lineup clamp

Also given prominence is Vitron underground pipe wrap, a new type glass-fiber pipe wrap used for the reinforcement of pipe-line coatings. The chief characteristic of this reinforcement is that it is nonhygroscopic and greatly increases the impact strength and tensile strength of the coating. Manufactured by Glass Fibers, Inc.

(Check 129 for Further Data on Above)

Cummins Engine Co., Inc.

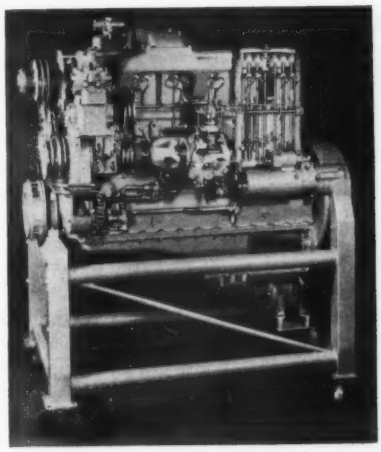
Columbus, Ind.

Block 3

In attendance
L. W. BECK, P. J. EVERY, G. W. STEVENS

An activated, cutaway version of a Model NHBS-600 Cummins diesel is featured in the display, which includes a total of 13 Cummins diesels, representing nearly every oil-field application. In addition the exhibit includes a cutaway model of the Cummins fuel pump and an exhibit of pump parts. A selection of translite photographs on a lighted board shows applications in the petroleum industry.

The new Mid-Continent Cummins multiple engine rig and pump drive group is on display and in operation in an outdoor exhibit. This unit consists of six compounded Model LI-600 Cummins diesels, each developing 240 hp. at 900 r.p.m., a total of 1,440 hp. The group is equipped with



Activated cutaway view of Model NHBS-600 Cummins diesel

pumps and a 140-ft. derrick. The rig is in operation, actually making hole and demonstrating the performance possible with this modern drilling equipment.

(Check 130 for Further Data on Above)

W. H. Curtin & Co.

Houston, Tex.

79 Scientific and Technical Building

In attendance
K. H. CLOUGH, C. G. ALBERT

Hand-driven and electric centrifuges, analytical balance, oil refractometer, fractional distillation apparatus, thermometers, hydrometers, drilling-mud viscosimeter, drilling-mud filter press, infrared spectrophotometer, ultraviolet spectrophotometer, flame photometer, radiation meter, stereoscopic microscope, constant-temperature circulating bath, analytical chemicals, ultraviolet lamp, laboratory porcelainware, laboratory glassware, filter paper, metering

Check It . . .
Mail It . . .

IN connection with the "numbered" list of exhibits and exhibitors on these pages for the convenience of its readers the Journal has arranged a special "Check It" . . . Mail It" free information service on the 1948 Oil Exposition.

In this section will be found a perforated prepaid JUMBO free information card, which can be checked or circled against the corresponding "numbers" of the exhibitors listed here.

Whether or not you attend the International Petroleum Exposition in person, this Oil Exposition Issue of the Journal and the Journal's special "Check It . . . Mail It" Jumbo service card will bring you complete Oil Show coverage.

valves, purity meter, electric hot plate, battery and a.c.-operated electric furnaces.

Among the numerous items displayed are Curtin hand-driven centrifuges, both 15 and 100-cc. sizes; International electric centrifuges; Christian Becker Chainomatic analytical balance with builtin magnetic damper; Bausch & Lomb precision oil refractometer; Oldershaw fractional-distillation apparatus with perforated glass plates; Tagliabue A.S.T.M. thermometers and hydrometers; Fann viscosimeter and filter press, both for drilling mud; Beckman ultraviolet and infrared spectrophotometers, flame photometer and radiation meter; Spencer stereoscopic microscope; constant-temperature circulating bath manufactured by Precision Scientific Co.; J. T. Baker's c.p. analyzed chemicals; Mineralight ultraviolet lamp; torsion balance; Coors porcelainware; Corning "Pyrex" brand glassware; Kimble "Exas" Blue Line glassware; Whatman filter paper; Ohaus trip scales, Parr metering valves; Barnstead purity meter; Lindberg electric hot plate; Taylor pH slide comparator; and products made by Hoskins Manufacturing Co., Hevi-Duty Electric Co., T. C. Wheaton & Co., and Wm. Boekel & Co.

(Check 131 for Further Data on Above)

Daniel Orifice Fitting Co.

Los Angeles, Calif.

86 Scientific and Technical Building

In attendance
W. A. GRIFFIN.

The new Daniel Simplex, Daniel senior orifice fitting, piston-type check valve, and laboratory bombs. Jerguson liquid-level gages and Tru-level distant-reading gage. Ashcroft pressure gages, American thermometers, Consolidated relief valve, P. E. Madden continuous blow-down system.

In addition to the listed equipment there is a Lucite meter run and a Daniel senior fitting through which smoke passes and visibly demonstrates the flow of gas through an orifice plate. This formation of "Vena Contracta" should be of extreme interest to men interested in measurement. A working model of the Jerguson Tru-level distant-reading level gage is of interest to power engineers.

(Check 132 for Further Data on Above)

Darling Valve & Manufacturing Co.

Williamsport, Pa.

113-114 Oklahoma Building

In attendance
M. L. HOUGH, C. H. SIMON, H. B. FOSTER, D. F. SABLE, F. W. HAMMETT, R. F. HEATH, H. A. SUMRELL, M. W. HARTMAN, C. L. HARTMAN, H. B. HAMILTON, JR.; L. A. HOFFMEISTER.

Cast-steel gate valves for pipe-line and refinery service, iron body pipe-line gate valves, iron body gate valves for general service, iron body pipe-line check valves, bronze and special-alloy gate valves, fire hydrants, Darcova valve cups, Darcova Pumcups, Darling pistons.

(Check 133 for Further Data on Above)

Davis Regulator Co.

Chicago, Ill.

46 Scientific and Technical Building

In attendance
R. A. PETERSON

Spring and weight-loaded gas back-pressure valves, strainers, and other valve specialties.

(Check 134 for Further Data on Above)

Day & Night Manufacturing Co., Dresser Industries, Inc.

Block 11

(Check 135 for Further Data on Above)

Dayton Rubber Co.

Dayton, Ohio

211 Oklahoma Building

In attendance
E. P. SPORE, JOE WEST, JOHN HENDRICKS, CHAS. BJORTMAN, WM. WOOD.

Dayton V-belt drives featuring new rayon cord construction.

The new V-belts made with rayon cord are now available in all sizes. The rayon is of the continuous-filament, high-tenacity type, and is especially processed for use in V-belts. This cord, as used in the neutral or strength section of Dayton V-belts, is made of continuous filaments twisted together to form cable-like cord, just as steel wires are twisted together to make a steel cable. This helps to eliminate stretch, necessitating fewer takeups and less maintenance. Since rayon makes the belts stronger and more durable, their life is considerably lengthened.

A special preformed cog belt is also displayed, embodying all of the advantages of rayon plus maximum flexibility. The cog belt is particularly adapted for drives involving maximum compactness, smallest possible pulleys, and shortest centers.

(Check 136 for Further Data on Above)

Dearborn Chemical Co.

Chicago, Ill.

106-107 Texas Building

In attendance
C. B. SMITH, E. M. CONVERSE, T. L. HOLCOMBE, P. V. PAYNE, T. KENNEDY, J. M. HOLTON, R. W. KELLY.

A new Dearborn development, NO-OX-ID Wrap, is featured at the exhibit. This is a rust preventative in roll form, combining NO-OX-ID corrosion inhibitors and an outer protective wrapper in one, and protects lead-sheathed cable and steel pipe from corrosion. It insures better control in coating, eliminates voids and unprotected areas, saves time in application. Also on display are water-treating and testing equipment and other pipe-line protective coatings and wrappers.

(Check 137 for Further Data on Above)

Deep Rock Oil Corp.

Tulsa, Okla.

28-29 Kansas Building

In attendance
L. E. THOMPSON, J. H. DUNCAN, J. C. TILLERY

A merchandise display, showing the company's petroleum products against a photomontage background of its refineries and service stations.

(Check 138 for Further Data on Above)

Delco-Remy Division, General Motors Corp.

Anderson, Ind.

Block 10

In attendance
FOUST CHILDERS

Delco-Remy electrical equipment for trucks and tractors, gasoline and diesel engines; generators, regulators, cranking motors, ignition coils, ignition distributors, switches, and Delco batteries.

The display shows many of the motor and engine accessories which this company is supplying to the petroleum industry. Delco-Remy, indirectly at least, has an important stake in the progress of the oil industry, for thousands of the stationary engines, tractors, and trucks, both gasoline and diesel powered, on which the petroleum companies rely, are Delco-Remy equipped. Among the electrical units which this division builds are generators, regulators, cranking motors, ignition coils, ignition distributors, and switches. Also on display are heavy-duty Delco batteries, which provide the electric starting power for engines in every phase of the oil industry. For many years the company has worked closely with the diesel industry in the development of units to fit the specific needs of diesel engines, in industry, agriculture, and commerce.

(Check 139 for Further Data on Above)

Detroit Diesel Engine Division, General Motors Corp.

Detroit, Mich.

Block 10

In attendance
V. C. GENN, ARCH F. CAMPBELL, R. L. BURPEE, M. Q. FULLINGTON

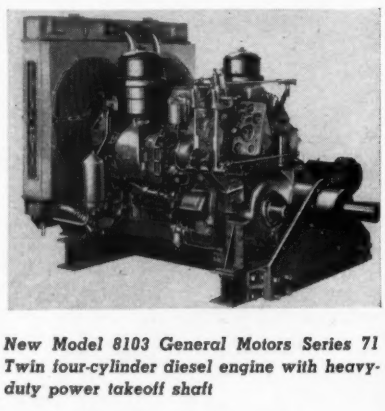
G.M. Series 71 diesel engines: 520 continuous b.hp. Quad 6 (four six-cylinder engines mounted on a common base); three 260 continuous b.hp. Twin 6's equipped with air, electric, and gasoline starting equipment (two six-cylinder engines mounted on a common base); 174 continuous b.hp. Twin 4 (two four-cylinder engines mounted on a common base); two, three, four and six-cylinder engines ranging from 46 to 138 continuous b.hp.; 60-kw. electric generating set.

Operating cutaway of three-cylinder engine, static cutaway of three-cylinder marine engine, unit fuel-injection system display.

A diversified selection of diesel power units suitable for oil-field production work is displayed, including G.M. Series 71 two-cycle diesels includes models ranging from 49-hp. 2-cylinder single engines up to 600-hp. Quad 6 multiple units.

The multiple engine combination is an exclusive General Motors design development. The units demonstrate how extremely high horsepower output and maximum portability can be realized by grouping small high-speed engines.

Highlighting the presentation is a Twin 4 engine which is being shown to the public for the first time. The unit consists of two GM four-cylinder diesel engines mounted side by side on a common base and geared to a single output shaft.



New Model 8103 General Motors Series 71 Twin four-cylinder diesel engine with heavy-duty power takeoff shaft

Purchasers have a selection of four distinctively different power take-off arrangements so that the unit can be adapted to a wide variety of oil-field assignments.

Other multiple engines in the display include GM Twin 6 and Quad 6 combinations made up of two or four basic six-cylinder engines. Single engines in two, three, four and six-cylinder sizes are available for inspection. A 60-kw. self-contained G.M. diesel electric generating set rounds out the power plant display.

Operating equipment in the exhibit includes a demonstration of the unit fuel-injection system and a chromium plated rotating cutaway of a three-cylinder Series 71 diesel engine. Electrically driven, the cut-

away engine turns within a glass case and is so constructed that all moving parts operate in full view of the spectators.

(Check 140 for Further Data on Above)

Dia-Log Tubular Survey Co.

Whittier, Calif.

10 Silver Lane

In attendance

B. R. McNULTY, J. P. KLINE, J. M. KLINE, HARRY WHITAKER

The exhibit illustrates the services of this company and its affiliates:

Dia-Log tubular survey service for accurately determining the extent and location of internal wear and corrosion in tubing and casing, either in the well or on the rack, charting the wall thickness and permitting replacements.

Drill-pipe backoff service for recovery of stuck drill pipe, drill collars, or tubing, by unscrewing with a "string type backoff shot."

Perforation-cleaning service using the "string shot" for cleaning in one operation the entire perforated interval of casing, liners, or gravel packs.

(Check 141 for Further Data on Above)

Diamond Chain Co., Inc.

Indianapolis, Ind.

11-12 Scientific and Technical Building

In attendance

G. A. WAINWRIGHT, C. P. KOTTLOWSKI, A. S. BASTEN, W. A. WARRICK, J. L. WAMSLEY, C. G. MIZE, T. PAUL JACKSON, P. C. MERCHANT, W. C. COVERT, HARRY MORROW, O. T. MEGINNIS, C. L. SARGEANT

Roller chains and sprockets, flexible-shaft couplings.

(Check 142 for Further Data on Above)

Eugene Dietzgen Co.

Chicago, Ill.

236 Oklahoma Building

(Check 143 for Further Data on Above)

Dollinger Corp.

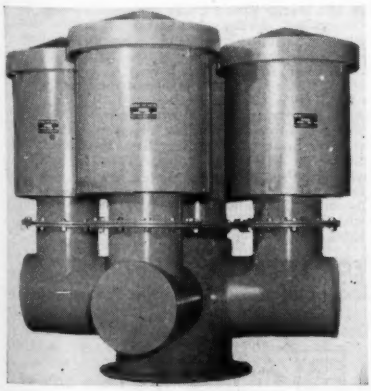
Rochester, N. Y.

207 Oklahoma Building

In attendance

LEWIS L. DOLLINGER, JR., FRED THILENIUS.

Staynew Model A-3 automatic air filter and complete line of Staynew intake, pipe line, and liquid filters.



Manifold Staynew intake filter installation

(Check 144 for Further Data on Above)

Double Seal Ring Co.

Fort Worth, Tex.

16 Park Lane

In attendance

R. W. (DICK) HOYT, BUYRL WILSON.

One-piece Double Seal compression and oil rings, two-piece Double Seal compression rings, plain rings, plain oil rings, piston-rod packing for the petroleum industry.

The one-piece double seal ring shown is a concentric piston ring in which the gap is completely sealed by a tongue which extends across the gap and fits into an accurately machined recess on the opposite side of the gap. This sealing tongue is fitted in an annular groove extending across the gap of the ring and is bonded to the main body of the ring in such a manner as to be flexible. This ring seals the gap in two places; against the wall of the cylinder and against the groove of the piston

(Check 145 for Further Data on Above)

Dowell Incorporated

Tulsa, Okla.

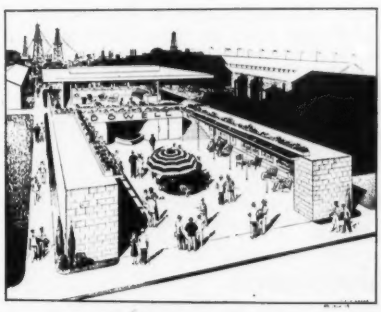
Block Y

A permanent building of distinctive modern architecture, decorated with blooming plants, has a court and balcony with lounge facilities for visitors, and is staffed with three shifts of seven men each.

On the balcony is large map of the United States showing points where Dowell maintain 45 operating stations, and on each side are murals showing the spinner, electric pilot, and two industrial scale-removal service murals. There are also displays of the various types of equipment that Dowell operates, literature available on technical services, and a display of oil-well acidizing equipment. In the basement is a display of how Dowell chemically removes scale from heat-exchange equipment.

In the court is a display of Dowell's latest oil-well acidizing treatment unit, exhibit of selective acidizing, an exhibit of Spinner-Surveys and the model of the Spinner; an exhibit of the Water Locator, an exhibit of Caliper Survey, and an exhibit of the Permeability Survey. Other exhibits include the Dow Chemical Co.'s cathodic protection service, the Dowell jet gun and what is accomplished by the Dowell acidizing service, Dowell Jelflake which is used for lost circulation in oil and gas wells, Dowell plastic services, paraffin solvents, and bulk chemicals.

(Check 146 for Further Data on Above)



Unusual architectural treatment of Dowell Incorporated's display

Dresser Industries, Inc.

Cleveland, Ohio

Block 11

Products of Dresser subsidiaries: Bovaird & Seyfang Manufacturing Co.; Bryant Heater Co.; Clark Brothers Co., Inc.; Day & Night Manufacturing Co.; Dresser Manufacturing Division; International Derrick & Equipment Co.; Kobe, Inc.; Pacific Pumps, Inc.; Payne Furnace Co.; Roots-Connersville Blower Corp.; Security Engineering Co., Inc.; Stacey Brothers Gas Construction Co.

A uniquely designed building, especially planned for exhibit purposes, houses a display of the oil-industry products made by this group of companies. Steel work is patterned on the design of oil derricks built by one of the group, International Derrick & Equipment Co. Outside the building is a derrick and other equipment set up to simulate oil-field operations.

(Check 147 for Further Data on Above)

Dresser Manufacturing Division

Bradford, Pa.

Block 11

In attendance

H. P. BONCHER, H. Z. HIGHT, E. E. PEAVY

Dresser couplings and long sleeves, boltless fittings for small piping, repair clamps and repair sleeves, welding ells.

(Check 148 for Further Data on Above)

Drilling Equipment Manufacturing Co

Oklahoma City, Okla.

29 Silver Lane

In attendance

PAUL MYERS, C. L. KNIGHT, B. C. CHRISTENSEN, C. A. CRENSHAW

(Check 149 for Further Data on Above)

Duff-Norton Manufacturing Co.

Pittsburgh, Pa.

154-155 Oklahoma Building

In attendance

W. I. FLOYD, W. W. MOODY, E. C. GUNTHER, D. CHRISTOPHER, T. W. KRUEGER.

Air-motor power jacks, governor-controlled self-lowering jacks, speed-controlled self-lowering jacks, low-height screw jacks, trench braces, bell-base jacks, push-and-pull jacks, automatic-lowering jacks, oil-well jacks, 12, 20, 25 and 30-ton hydraulic jacks, aluminum-track jack, 30-ton hydraulic jack with independent pump.

The company has added three new units to its line of jacks, including a light-weight track jack, a 25-ton-capacity hydraulic

ELI Announces Improved B. H. P. Gauge

Greater Accuracy, More Ruggedness Built Into Eli-Manufactured Humble-Type Subsurface Pressure Gauge

Greater accuracy of records because of reduced friction has been attained by ELI engineers in developing the new "O" ring packing in the stuffing box, through which the pressure piston travels to the drum chart, on the improved bottom-hole pressure gauge. By chromium-plating this piston, friction has been further reduced and longer wear assured. Accuracy proved and guaranteed for this instrument is one-quarter of one per cent.

A new clock is available that will stand more abuse, delivers more power and has less internal friction. Its performance promises to set new standards for this type of instrument.

A new clock oil has been developed which is stable to 300° F and eliminates the necessity of re-oiling the clock in the field. The oil assures longer life of the clock, since forgetfulness in lubrication no longer affects its operation, and excessive oiling is prevented.

Uniform and accurate readings over long periods are now possible due to the especially-treated helical spring, which acts against pressure on the piston. Hysteresis has been reduced to give excellent repeatability. This spring is pre-loaded against reaction of the piston to atmospheric changes, so the base-line remains constant in atmospheric ranges. Pressures are recorded only in the bore-hole, when under pressures exceeding the initial tension.

A new separator section prevents well fluids from entering to working parts; thereby lengthening its useful life, and improving accuracy.

All the above improvements are now available in a new case with "O" ring joint seals which assures even more safety from entry of well fluids. This new joint is more rugged and has withstood pressure up to 13,500 P.S.I. without leakage.

The ELI bottom-hole pressure gauge is manufactured with extreme care, and engineered to withstand the usual abuse liable to be encountered in the field. The great number of gauges in use testifies to the fact that the instrument renders superior service.

The working principle is simple: Well pressures enter ports at the top of the gauge, react against a piston which is held back by a helical spring. On the end of the piston rod is fastened the stylus which records the vertical movement of the piston on a revolving drum chart. The drum chart is driven by a clock mechanism. The ELI Bottom Hole Pressure Gauge is 1¼ inches in diameter, and 66 inches long, weighing 17 pounds. It is run in the well through a suitable stuffing box and lubricator on either .066 or .072 inch standard wire line.

OTHER ELI TEST AND LABORATORY EQUIPMENT

Humble-Type Subsurface Thermometer
Accuracy to ½ of 1°; pressures up to 10,000 lbs.; ranges 60° to 240° F (special order only), 1¼ in. x 62 in.

Calibrating Bath
For calibrating B.H.P. gauges and ELI recording thermometers at operating temperatures.

Dead Weight Tester
For calibrating B.H.P. gauge in 5000 and 10,000 lb. ranges. Accuracy to 1/10 of 1% of pressure under test.

Field Transfer Bottles
660cc and 1000cc, stainless steel, pressures up to 10,000 lbs.

Field Transfer Pump

Bottom-Hole Samplers
Humble-Types A and B, Perco type, and Wolford type.

ELI Mercury Pump
Positive displacement, pressures up to 10,000 lbs.

Heise-Bourdon Tube Gauges
All sizes and ranges, dial sizes up to 16 inches.

Pressure-Volume Cell
Stainless steel, approx. 635cc, pressures up to 10,000 lbs., mounted on trunnions, base 9 in. x 12 in., height 14 in., weight 40 lbs.

Pressure Viscosimeter
Humble design, non-corrosive materials, accurate measure of samples for viscosity under reservoir conditions.

Gas-Oil Ratio Equipment
Determines gas liberated from oil under various conditions—flash and differential ratios may be determined.

Water-Bath Assembly
18 in. x 16 in. x 17 in. insulated tank equipped with 3000-W Chromolox heater.

Water Determination Apparatus
100-W Chromolox heater element, stainless steel or brass tubes as specified, 10 extraction cups.

Hayward Permeameter
Permeance of core is read directly, and permeability determined by a single multiplication with length-area ratio. Self-contained and portable, simple to operate.

Engineering Laboratories, Inc.
TULSA 3, OKLAHOMA GARLAND, TEXAS

FOR LITERATURE WRITE
Dept. OJ-5, 624 E. 4th, Tulsa, Oklahoma

EXPORT MANAGER
E. F. GAHAN, INC.
500 Fifth Avenue
New York, N. Y.

REPRESENTATIVES
In Argentina, Brazil, Chile, Paraguay, Peru and Uruguay.
Geotecnica, S.A. Ind. y Com., Charcas 1775, Buenos Aires, Argentina.

journal jack, and a hydraulic jack for lifting work in close quarters, known as the "Lo-Hite" jack.

The new track jack, known as Model 117-A, has an aluminum-alloy base, with consequent reduction in over-all weight. Because of its light weight (42 lb.) the new jack is said to provide easier and faster service in track-surfacing and lining operations.

The new light-weight, 25-ton-capacity hydraulic journal jack is reported to weigh 25 per cent less than standard models of the same capacity, yet is said to possess the same power, strength, and service life as the standard models.

The new Lo-Hite hydraulic jack is fitted with an independent pump which is connected to the jacking mechanism by a length of rubber tubing. The pump can be operated from the ground or from any convenient place, when the jack itself is spotted in close, confined positions otherwise impossible of access.

(Check 150 for Further Data on Above)

E. I. duPont de Nemours & Co. (Inc.)

Wilmington, Del.

100 Texas Building

In attendance
CHARLES S. GUNBY.

Neoprene, explosives, petroleum chemicals.

Fourteen display panels, many of them animated, feature exhibits which tell the story of how the company serves the oil industry and focus attention on Du Pont's petroleum chemicals, tetraethyl lead, neoprene synthetic rubber, and explosives.

Within the exhibit area is an air-conditioned lounge where visitors may discuss problems with representatives of the company. The lounge is paneled in a crystal-clear Du Pont plastic, "Lucite" acrylic resin.

Two of the display panels are general in nature. Six of them will focus on the story of petroleum chemicals and tetraethyl lead and will include a demonstration of the action of gasoline compounded with tetraethyl lead compared with a gasoline without the antiknock ingredient.

In three panels the company's Rubber Chemicals Division, manufacturer of neoprene, shows products made of it which are widely used by the oil industry in the production, distribution, and refining branches. The Explosives Department's display depicts methods of using explosives in the oil fields, especially in seismic prospecting.

The Petroleum Chemicals display shows:

The improved oxidation stability of gasolines containing Du Pont Antioxidants.

An animated exhibit depicting the combustion of gasoline under knocking and nonknocking conditions.

How oil-soluble colors are used to establish the identity of motor fuels.

A flow chart illustrating preferred points for the addition of Du Pont Fuel Oil Stabilizer No. 1 in the manufacture of distillate fuels.

Metal deactivator, with a flow chart showing possible sources of copper contamination.

"Ortholeum" 202 and 204, sulfur carriers for petroleum products, with a series of copper strips to illustrate the degree of sulfur activity at various concentrations and temperatures.

The Explosives' display shows:

"Nitramon" S blasting agent, as used in seismic prospecting for ore. Incorporated is a little movie or slide film illustrating how to use it and reasons for using it.

"Nitramon" WW, for underwater seismic prospecting, with a graph demonstrating how to prepare a charge for underwater shooting, with full-size, actual samples.

Du Pont SSS electric blasting caps, as especially designed for seismic prospecting.

The Rubber Chemicals' display has three panels, showing many neoprene products used in drilling, refining, and distributing. These products demonstrate neoprene's resistance to oils and solvents, sunlight, abrasion and to propagation of flame.

(Check 151 for Further Data on Above)

Durametallic Corp.

Kalamazoo, Mich.

14 Texas Building

In attendance
ROSCOE R. SMITH

Metallic packings, plastic packings, mechanical rotary seals, packing tools.

(Check 152 for Further Data on Above)

Eastern Industries, Inc.

New Haven, Conn.

76 Kansas Building

(Check 153 for Further Data on Above)

Eastman Oil Well Survey Co.

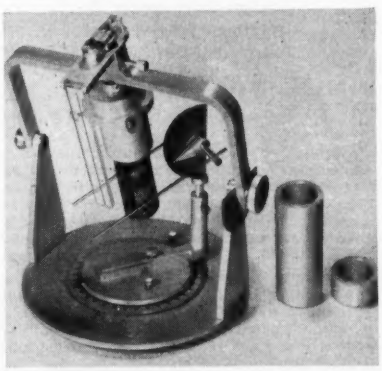
Denver, Colo.

44-59 Scientific and Technical Building

In attendance
H. JOHN EASTMAN, GORDON JACKSON, TED W. SESS, WILLIAM G. JAMES, CLYDE STOKENBURY, J. B. MURDOCH, JR.; WILLIAM L. CARWILE, JOHN COCHRAN, W. H. COOK, JOHN C. DUNCAN, JOE E. EDWARDS, RALPH GOBLE, ONOS M. LINDSAY, A. R. MacLAGAN, OLIVER V. PHILLIPS.

Controlled directional-drilling tools, oil-well surveying instruments, electronic equipment for temperature and water-entry determination, Corex core-orientation instruments.

The exhibit includes the demonstration of a new electronic surface-recording instrument. The temperature recorder was developed after 2 years of experimental



Eastman Corex Reader used in conjunction with the Corex wire-line retractable coring equipment for rapid, accurate core orientation

work directed specifically toward the elimination of thermal lag. The practical attainment of this goal permits temperature surveys to be recorded at rates in excess of 300 ft. per minute with less than 1 per cent error attributable to thermal lag.

Eastman's new Corex method for orienting cores provides a quick, easy method of determining the amount of dip and strike of the geological formation through which the hole is being drilled, especially when there is a lack of geological data. An oriented core can be taken without removing the drill pipe or bit, or changing the drill setup.

(Check 154 for Further Data on Above)

Eberhardt-Denver Co.

Denver, Colo.

40 Scientific and Technical Building

Exhibiting with Allied Bearings Supply Co.

(Check 155 for Further Data on Above)

Allan Edwards, Inc.

Tulsa, Okla.

4-5 California Building

In attendance
ALLAN EDWARDS, SR.;
ALLAN EDWARDS, JR.; J. D. IRONS

Exhibiting products of: Jaeger Manufacturing Co.—Jaeger Sure Prime pumps; Mixing Equipment Co., Inc.,—Lightnin mixers; Faber Engineering Co.—Steam atomizing oil-burner systems, mechanical oil-burner systems; Allan Edwards, Inc.—Concrete river weight; pipe-line welding sleeves.

(Check 156 for Further Data on Above)

Edward Valves, Inc.

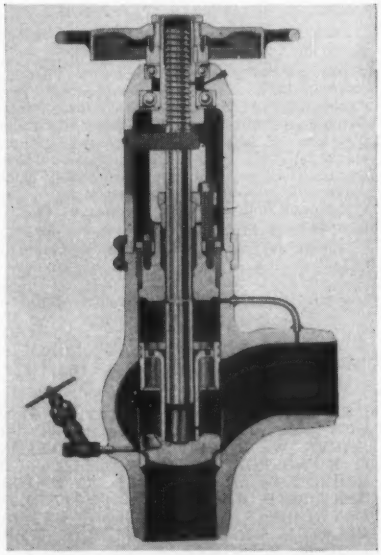
East Chicago, Ind.

33-38 Scientific and Technical Building

In attendance
W. F. CRAWFORD, W. A. MARSTELLER, R. A. DURAND, D. MacGREGOR, D. O. BAYLESS.

Forged and cast-steel stop, check, gate, nonreturn, hydraulic, gage, blowoff, Intex, welded bonnet Univalve, relief valves, strainers and packing.

Among the new Edward valves shown are: forged-steel welded-bonnet Univalves; a new valve design for gage and meter lines; a new check valve developed especially for gas-field service; 7,500-lb. hydraulic valves; globe and angle stop, and nonreturn valves, equipped with pressure-sealed bonnets and new internal contours for low pressure drop; and a recently developed gate-valve design with welded guide ribs for reduced wear on wedge and seats. These new features are demonstrated with sectionalized valves. New valve materials for pressure and temperature extremes, EValpak die-formed heat resisting packing, patented Impactor handwheels, Intex integral hard surfaced seat and disk construction, and EValloy valve parts are other Edward developments on exhibit.



Cutaway view of a new valve

(Check 157 for Further Data on Above)

Electric Hose & Rubber Co.

Wilmington, Del.

62 Oklahoma Building

In attendance

GEORGE T. HAMANN, V. W. WELLS, E. E. ZILEN, R. W. BAUER

Hose for all types for drilling, refining, and marketing divisions featuring many new postwar developments that make hose lighter and stronger. An interesting new development is "multipurpose" hose, a single grade suitable for a wide range of uses in all branches of the oil industry.

(Check 158 for Further Data on Above)

Elliott Co.

Jeannette, Pa.

125-126 Oklahoma Building

In attendance

J. N. McCLURE, J. A. WILSON, R. L. HENRY, H. W. HONEFENGER, F. W. DOHRING.

The new Elliott type YR mechanical-drive turbine, and a representative assortment of tube cleaners.

The rest of the Elliott line, including centrifugal blowers, motors and generators, turbochargers and power-plant equipment, including turbine generators, condensers, steam-jet ejectors, feedwater heaters, and strainers are shown by posters and photographs.

(Check 159 for Further Data on Above)

Emerol Manufacturing Co., Inc.

New York, N. Y.

123-124 Oklahoma Building

In attendance

C. B. PIERCE, W. C. PIERCE

Marvel inverse oiler (top-cylinder lubricator) for industrial engines using gasoline, natural gas, or butane for fuel. Marvel mystery oil (top cylinder lubrication) for use with the Marvel inverse oiler.

(Check 160 for Further Data on Above)

Enardo Manufacturing Co.

Tulsa, Okla.

163 Oklahoma Building

In attendance

PHIL B. DRANE, R. H. BROOKS, JR.

Tank hatches and valves, pipe-line valves, clock shut-off switches.

The company has a complete line of storage-tank equipment including vent valves, vapor and pressure hatches, tank flanges, and slip-on fittings. Specialty items for use of pipe-line companies include clock shutoff switches, automatic tank shutoff valves, and pressure safety-clock valves. The company has acted as a development company for equipment that is new but has never been put on the market.

(Check 161 for Further Data on Above)

Engineering Laboratories, Inc.

Tulsa, Okla.

22-78 Scientific and Technical Building, and Block 104

In attendance

W. G. GREEN, R. B. McCULLAR, J. V. BOWMAN, J. W. McLENDON, B. M. BAKER, W. M. WELLS, F. R. WHEELER, C. E. WOFFORD, O. W. GRAHAM, J. D. SCHROEDER, E. F. GAHAN, C. E. DIETERT, M. P. RAGAN, L. M. SWIFT, J. E. CAYWOOD, S. O. SNYDER, T. E. WILLIAMSON, M. D. CARTER, DAN WARDEN, M. H. GOMEZ.

Showing the "Gagetron," which controls and/or measures liquid levels through thick walls with no mechanical or electrical connections, and minimizes many hazards of fire, explosion and other dangers attendant on storing or processing highly volatile or corrosive liquids. There are no connections from inside to outside of tank, as the Gagetron uses a gamma-ray source which is introduced into the tank. The ray source emits signals which can be used for measuring or controlling the liquid levels.

(Check 162 for Further Data on Above)

Refinery workman completes installation of a Gagetron detector unit on the side of a large acidizing unit. Note that unit (square housing) is merely bolted in place, with no other connection to be made to tank

Ensign Carburetor Co.

Huntington Park, Calif.

69 Texas Building

In attendance

R. R. WYKER, R. G. ABBOTT, A. J. ST. GEORGE, L. G. SMITH, GRANT KELLER.

Carburetor and gas regulator in section for updraft installation, carburetor and gas regulator in section for downdraft installation, combination gasoline and dry-gas carburetor, butane-propane carburetion equipment, and new Ensign carburetor Model "Xg."

Equipment shown includes sectional display models of many Ensign units. Carburetion for natural gas, butane-propane, and gasoline is featured as well as assemblies which demonstrate various methods of installation.

The principal exhibit is a new design of Ensign gas carburetor for use on either natural gas or butane-propane. This carburetor, Model Xg, is known as a "straight through" model and may be mounted in either downdraft or updraft positions. When mounted in a downdraft position the air cleaner may be installed directly to the carburetor air horn without use of an air-cleaner elbow. The new Xg incorporates a built-in gas economizer as well as the Ensign patented easy-starting device. The carburetor is made to accommodate various venturi sizes thereby making it more universal in its application. Throttle shaft is mounted on hardened and ground steel bushings with dust-sealed protection. The four principal parts of the carburetor are so designed that they may be assembled in various arrangements to facilitate easy installation on engines where space limitations are close.

(Check 163 for Further Data on Above)

Evans Products Co.

Plymouth, Mich.

Block 3

In attendance

J. J. BRANDON, RALPH E. OURSLER

Thermo-Control fan.

The Evans Thermo-Control fan, for use in all internal-combustion engines, controls the temperature of the radiator coolant within closer limits than has been possible with previous methods.

Proper engine operating temperature is maintained at all times. The fan is designed like an automatic variable-pitch aircraft propeller. When engine-coolant temperature rises, a positive-acting power element increases in length and activates the mechanism which increases fan pitch to deliver the required amount of air. When engine-coolant temperature decreases, the positive-acting power element decreases in length and the fan pitch decreases according to the reduced length of the power element, lessening the flow of air.

(Check 164 for Further Data on Above)

Ever-Tite Coupling Co., Inc.

New York, N. Y.

56 California Building

In attendance

JOHN T. KRAPP

Ever-tite Quick-Connect and Quick-Detach couplings which answer the need for a quick coupler that guarantees a tight connection under all conditions and for every use. They eliminate the waste of time that comes with the necessity of fitting lugs or threads when connecting delivery hose to an outlet, a faucet, tank car, storage tank or when threading lengths of hose.

They have positive action, no springs, ball bearings, or snaps. The tightness is pre-determined and built-in during manufacture. No wrenches or tools are required and when a connection has been made, there is no possibility of a leak. The closed position of the handles precludes accidental disengagement. All danger of wear is automatically overcome by compression on the specially compounded neoprene gasket in the coupler. This gasket in turn is stationary, receives no friction and will not become worn or buckled. It is recessed and will never fall out.

Fabricated of fine quality durable bronze, the threaded units are furnished with tapered iron pipe threads and the shank units with standard size nipples for use in hose. They provide an ample factor of safety in handling any type of liquid or volatile gas. Patented design and construction will withstand pressures far in excess of any working conditions. Ever-Tites are also tight under vacuum, thereby offering their advantages on suction lines. This is due to the unique cam action which assures gasket compression greater than that of any other coupling now on the market.

Freezing and ice are not obstacles. Ever-Tites are made so that they operate simply, even if ice has formed on them. The handles are furnished with rings so that they may be easily lifted—an important feature when hands are cold and fingers numb.

(Check 165 for Further Data on Above)

George E. Failing Supply Co.

Enid, Okla.

Block 10

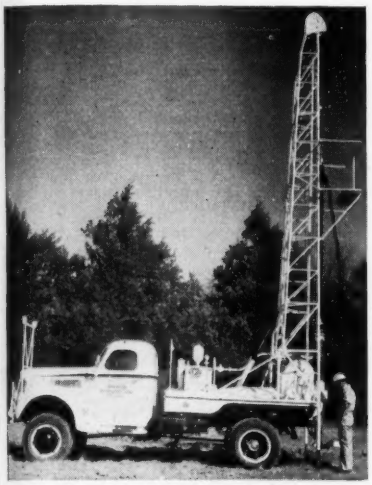
In attendance

GEORGE E. FAILING, J. C. FAILING, ROBERT E. GREER, H. J. GODSCHALK

Three postwar-model portable drills are exhibited: Failing 750 Sizmo Holemaster; Failing 1500 Holemaster; Failing 2500 Holemaster. Also numerous items of small equipment.

(Continued on page 283)

Each of the three drills will be in continuous operation during the show.



Failing 750 Sizmo Holemaster
(Check 166 for Further Data on Above)

Fairbanks Co.
New York, N. Y.
50-51 California Building

In attendance
R. G. MACBETH, C. L. HASLUP, L. COMPTON, K. M. McCLEAN, J. J. LANGAN, R. W. DRAUGHON.

Representative samples of bronze and iron-body valves; Fairbanks steel-framed hand and platform trucks; special drum-handling equipment; truck casters; rubber-tired wheels. Also new line of 200-lb. Union Bonnet bronze gate valves fitted with integral and renewable seat rings and a new line of 300-lb. Union Bonnet bronze globe and angle valves which includes valves with two different types of stainless steel, plug-type, disks and seats, 500 Brinnel hardness, one type with full portways and the other of the throttling type.

(Check 167 for Further Data on Above)

Fairbanks, Morse & Co., Magneto Division
Beloit, Wis.
37 Kansas Building

Magnetos.

(Check 168 for Further Data on Above)

Fairbanks, Morse & Co.
Chicago, Ill.
10-11-12-13 California Building

In attendance
R. H. MORSE, JR.; C. H. MORSE, III; O. O. LEWIS, H. D. GOBBLE, J. S. KING, H. J. HILLEARY, H. J. RENKEN, W. W. GUERNSEY, J. S. PETERSON, H. E. BROWN, P. S. PROCTOR, W. B. KELLA, W. S. JOHNSON, JOHN MICHEL, GLENN PARKER, F. D. RATCLIFFE, HARRY SHELTON.

ZC engines, power pump, centrifugal pumps, rotary pump, Westco pump, polyphase squirrel-cage motors, axial air-gap motor.

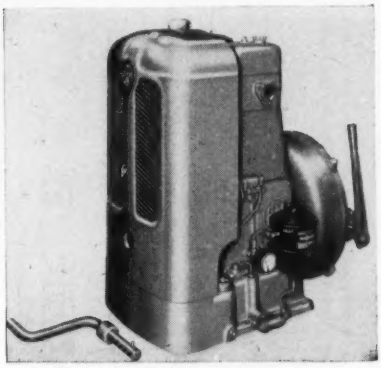
Products displayed include the following: ZC engines—Slow-speed, horizontal engines especially designed for oil-well pumping service.

Power pump—Constructed for general application, also can be adapted to a wide variety of special applications.

Centrifugal pumps—Built for general or heavy-duty service with motor, diesel, and gas-engine belt drive or direct-connected combinations; parts are interchangeable.

Rotary pump—For economical, efficient pumping of free-flowing liquids, is simple in design, compact and positive in displacement; has only two moving parts, the precision-cut rotor and pinion.

Motors—Type QZK, conventional all-purpose motor and the new Axial Air Gap motor, a radical departure from standard motor design. This motor is only half the size and weight of the conventional-type motor.



Model 45B3-⅛ diesel engine
(Check 169 for Further Data on Above)

Farrel-Birmingham Co., Inc.
Buffalo, N. Y.
191 Oklahoma Building

In attendance
R. C. WILSON, JOHN BRANDT, T. V. BUSK, V. W. OSBORNE, WALTER DOMAGALLA, C. M. PETERSON.

This exhibit consists of a display unit with photograph translites showing installations of gear units in oil-field service. There also are translites showing the company's plants; and products manufactured for use in oil-field service, pipe-line pumping stations, and refineries, including speed-increasing units, speed-reducing units, deep-well-pump drives, gears, and flexible couplings. Also on display are various types of gearflex couplings, rotary pumps with Sykes gear rotors, small Sykes herringbone gears, and photographs and engineering data relating to these products.

Shown for the first time is the new SI series high-speed gear unit, available in Class C construction with cast housing in 35 sizes, with center distances ranging from 5 to 24 in.; and in Class F with fabricated steel housing in 14 sizes, with center distances ranging from 27 to 42 in. The speed ratio range is 1:1 to 12:1 with one pair of gears.

(Check 170 for Further Data on Above)

Farrel Type SI high-speed gear unit for speed-increasing and speed-reducing service

Farris Engineering Corp.
Palisades Park, N. J.
32 Silver Lane

In attendance
V. W. FARRIS

Nozzle safety valves, "FarriSeal" bellows safety valve isolator, heat-exchanger coil in safety valves, 10,000 compact bar-stock relief valves, internal sections of safety valves.

Introducing: all-rubber abrasion and corrosion valves, hand and automatic operated.

(Check 171 for Further Data on Above)

Fawick Airflex Co., Inc.
Cleveland, Ohio
257-258 Oklahoma Building

In attendance
T. L. FAWICK, R. S. HUXTABLE, J. B. KELLEY, J. V. EAKIN, N. A. D'ARCY, JR.

Several types of Fawick Airflex clutch-element assemblies, Airbridge and Solenoid valve, Air-Ring clutch assembly, Rotorseals, and quick-release valves.

The Airflex clutch displayed is claimed to solve the problem of an adequate clutch to match the improved construction of other components of advanced design power transmission. The clutch is actuated by air under pressure and is controlled by a finger pressure responsive valve. This air, carried through piping installed in the most suitable manner, obtains immediate clutch response. Levers, fulcrums, sliding collars, springs, and linkages are eliminated completely. Disengagement is complete and automatic when the air under pressure is released. When the unit is in released position, an open air space between the drum and friction shoes eliminates heat, wear, and noise.

(Check 172 for Further Data on Above)

Fischer & Porter Co.
Hatboro, Pa.
25 Scientific and Technical Building

In attendance
W. A. DIAMENT, H. F. LORENCE, D. J. CONDIT, R. W. FRITSZCHE

Ratosleeve Flowrator instrument for large flows, Armored Flowrator instrument for high temperature and pressure, electronic recorder-controller for tiny flows, ratio controller, viscorator continuous viscosimeter, specific gravity recorder, new air or gas-driven totalizer.

(Check 173 for Further Data on Above)

Edwin H. Fitler Co.
Philadelphia, Pa.
4 Texas Drive

In attendance
JAMES A. ENGLAND, CHARLES G. KRPEC.

Oil-field cordage.

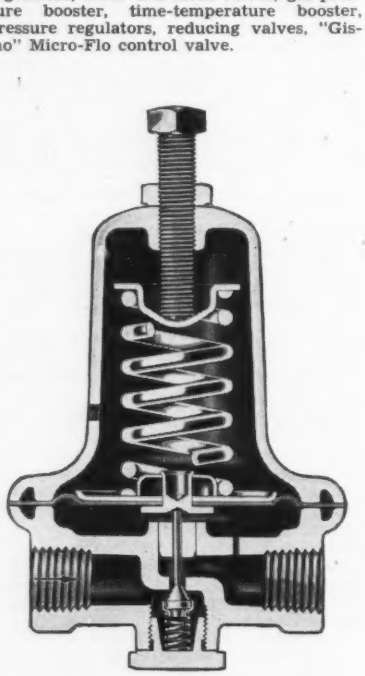
(Check 174 for Further Data on Above)

Fisher Governor Co.
Marshalltown, Ia.
76-77-78-79 Texas Building

In attendance
P. A. ELFERS, T. B. BURRIS, L. E. EIGE,

A. A. ENGEL, G. F. BROCKETT, A. E. EHRKE.

Fisher Level-Trol Wizard pilot-operated regulators, lever and float valves, gas-pressure booster, time-temperature booster, pressure regulators, reducing valves, "Gismo" Micro-Flo control valve.



Type 67 Fisher governor

(Check 175 for Further Data on Above)

Flint Steel Corp.

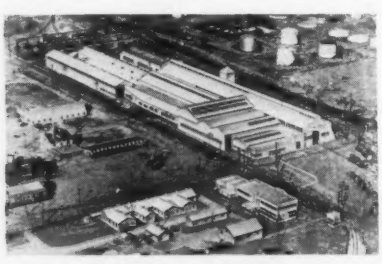
Tulsa, Okla.

20-21 Scientific and Technical Building

In attendance

C. M. COOPER, C. F. MOONEY, D. E. FIELDS, S. L. SPENCE, H. G. LEWIS, H. A. HOFFLANDER.

Bank of multitubular heat exchangers; miniature transmission tower; display of photographs of equipment.



Flint Steel Corp. offices and plant

(Check 176 for Further Data on Above)

Fluid Packed Pump Co.

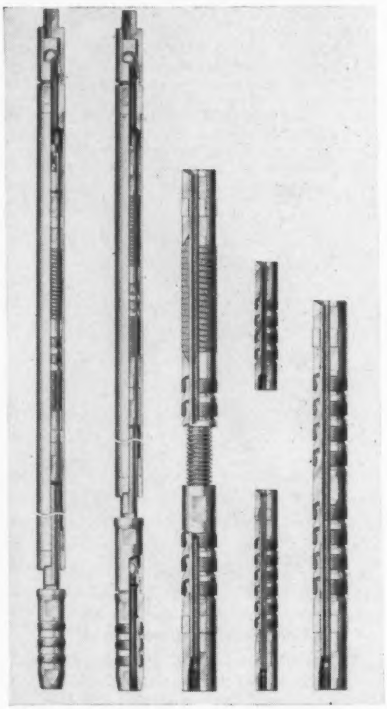
Los Nietos, Calif.

1-2 California Building

In attendance

GLEN PETERS, G. R. NEWBOLT, C. D. NEWBOLT, SID SHUMAN

Oilmaster improved insert pumps, Oilmaster volume producer pumps, Petrol "A" pumps, Fluid-Packed three-tube pumps, tubing full-liner pumps, Cup Pumps, producer pumps.



Fluid Packed producer pumps

(Check 177 for Further Data on Above)

Fluor Corp.

Los Angeles, Calif.

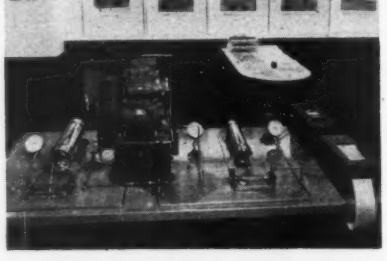
47-48 Scientific and Technical Building

In attendance

CECIL YATES, J. R. FLUOR, J. P. WISEMAN, F. M. STEPHENS, G. H. DIETER, M. A. ELLSWORTH, C. F. ROYSE, C. E. PICKUP, D. H. WHITE, C. E. GREGG.

Working model of Pulsation Dampener.

The Pulsation Dampener is a device used to convert pulsative flow in gas, air, and vapor lines to a smooth steady flow, making meter reading accurate and eliminating many other effects caused by pulsative flow in such lines. The exhibit consists of two models connected to the intake and exhaust of a small compressor by means of piping. On these pipe lines, meters are



Working model of Pulsation Dampener

mounted, and with the application of special cutout valves the effect of the Pulsation Dampener on line flow is readily demonstrated.

Built into the demonstration booth is an automatic slide projector, showing actual installations of Pulsation Dampeners and other Fluor products.

(Check 178 for Further Data on Above)

Foote Bros. Gear & Machine Corp.

Chicago, Ill.

Block G

In attendance

MAX E. LANDRY

Industrial gears, commercial gears, "Aircraft-Quality" gears, helical-gear speed reducers, worm-gear speed reducers, flexible couplings.

(Check 179 for Further Data on Above)

Formica Insulation Co.

Cincinnati, Ohio

14 Silver Lane

Exhibiting with Plastelite Engineering Co.

(Check 180 for Further Data on Above)

Foster Cathead Co.

Wichita Falls, Tex.

12-13 Texas Building

In attendance

W. W. FOSTER, GORDON T. WEST, J. LEWIS FOSTER, K. J. FARRIER

(Check 181 for Further Data on Above)

Four Wheel Drive Auto Co.

Clintonville, Wis.

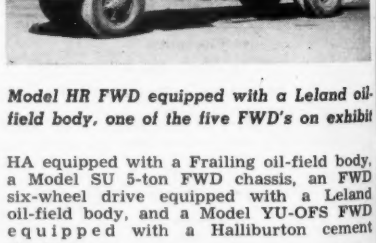
Block N

In attendance

W. C. MERRILL, R. E. MEEK

FWD trucks with various types of oil-field bodies.

Featured in the exhibit is the Model HR FWD equipped with a Leland oil-field body. Other FWDs on exhibit include an



Model HR FWD equipped with a Leland oil-field body, one of the five FWD's on exhibit

HA equipped with a Frailing oil-field body, a Model SU 5-ton FWD chassis, an FWD six-wheel drive equipped with a Leland oil-field body, and a Model YU-OFS FWD equipped with a Halliburton cement pumper.

(Check 182 for Further Data on Above)

Foxboro Co.

Foxboro, Mass.

18-19-65 Scientific and Technical Building

In attendance

C. E. SULLIVAN, H. O. EHRISMAN, D. M. HILL, V. V. TIVY

Dew-point recorder, gas-powered integrating flow meter, tubing and casing-pressure recorder, auto-selector controller for pump discharge or suction, pneumatic-operated engine governor, Foxboro Model 40 controller, D/P cell (differential pressure) transmitter used with pneumatic and electronic recorders, EMF and resistance bulb

dynalog (all-electronic) recorders, Model 41 indicating controller.

Foxboro's exhibit, divided into three sections, shows the latest developments in instrumentation for petroleum production, pipe-line operation, and refining. Instruments in the production section include the dew point recorder, a simple, compact and reliable means of direct measurement of humidity; also the gas-powered integrating flow meter, which requires no electricity to operate the counter. The auto-selector controller, in the pipe-line section, is a new instrument for pump control, automatically adjusting itself to supply and demand requirements. The Model 40 controller, widely used in oil and gas industry applications, and the all-electronic dynalog instruments are in the refining section; and also the new D/P cell (differential pressure) recently introduced to solve troublesome metering problems such as corrosive service or limited space for installing.

(Check 183 for Further Data on Above)

Fram Corp.

Providence, R. I.

116-117 Oklahoma Building

(Check 184 for Further Data on Above)

France Packing Co.

Philadelphia, Pa.

72 Texas Building

In attendance

E. A. FRANCE, M. A. BOULDEN, R. A. ROBINSON

Showing a complete line of piston rings and floating packing.

The piston-ring display includes cast iron, compression, and oil rings for power cylinders. For compressor cylinders, tensioned snap rings as well as three-piece segmental rings are shown in bronze, bakelite and carbon-bakelite.

The packing display consists of packing rings of iron, bronze, and carbon-bakelite, and complete packings for gas and ammonia compressors.

A power packing and fire check is also on display for double-acting gas engines. The company chose designs of interest to gas-field and refinery operators.

(Check 185 for Further Data on Above)

Franks Machine Co.

Enid, Okla.

Block 104

In attendance

JOE FRANKS, E. L. RACEK, WALTER SCHMIDT, E. L. RACEK, JR.

Model KC-45 truck-mounted drilling machine and supplies such as bits and liners.

The drilling machine on display has been redesigned to incorporate all of the latest improvements. The completely enclosed chain transmission case was first introduced 2 years ago, and is said to be an outstanding success. All clutches, chains, and speed reductions are contained in one oil-bath case, which increases operating life and decreases maintenance costs. Twin Disc air-type clutches on the hoisting drums give greater capacity and are operated with less effort.

The outstanding feature of the new KC45 is the hydraulic drive on the pulldown mechanism. This overcomes the last disadvantage of a chain pulldown machine. With the flow-control-valve arrangement, any amount of pressure may be applied on the bit by the turn of a knob.

(Check 186 for Further Data on Above)

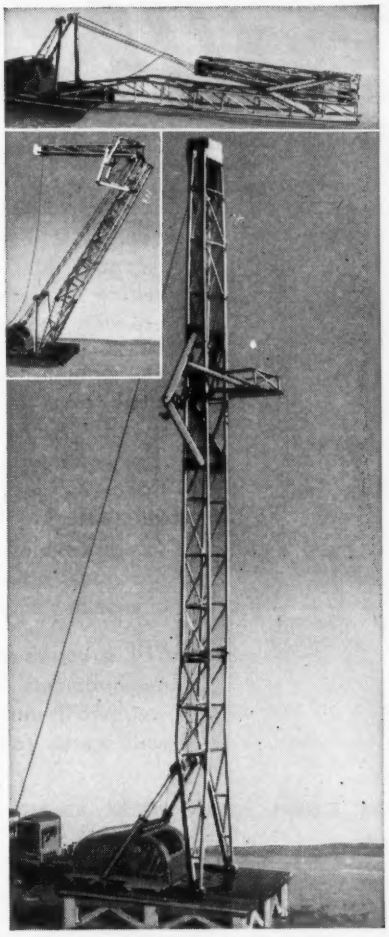
Franks Manufacturing Corp.

Tulsa, Okla.

Block Z

In attendance

CARL WHITE, JR., R. M. WHITE, L. E. FERGUSON, EARL KIRBERGER, V. K. CHAPMAN, JOE BYRD, W. B. WOODY, ALBERT HASTINGS, KENNETH LAMER, TOMMY KNOBLOCH, VERN ALLEY, GEORGE LEWIS, DOUG LAWRENCE, JOHN G. LEYH, MIKE PALLEIN.



New double-jointed, 130-ft., thribble, jackknife derrick with 16-ft. base. It can be folded into a single load for offset or location-to-location moving, complete with lines and blocks strung and ready for immediate erection at new location. For over-highway moving, the derrick folds into two parts, each section making a single truck load. The Franks model is the first derrick of 130-ft. size to afford unit portability

New double jointed, 130-ft., thribble, jack-knife derrick.

New model skid-type draw works, especially designed for deep workover and medium depth drilling, embodying the last word in power transmission, air clutches and finger-tip controls.

Improved telescoping derrick unit.

Self-propelled drilling unit carrying its own telescoping derrick unit with the newest air clutches and controls.

Self-propelled light complete drilling unit for water, shallow oil-well drilling, and stratigraphic testing.

New, remote, full-air control box which permits the rotary driller or servicing unit operator to select the most favorable spot for operation on any job or under any derrick, eliminating derrick blind spots.

"Donut" and "Diaphragm" air clutches and hydraulic auto-equalizing clutch dogs with single-point adjustment.

(Check 187 for Further Data on Above)

Frost Geophysical Corp.

Tulsa, Okla.

161 Oklahoma Building

In attendance

C. H. FROST, JOSEPH A. SHARPE, JOHN H. HIDY, J. C. ROLLINS

Gravity meter, gravity maps, airborne magnetometer.

(Check 188 for Further Data on Above)

Fulton Sylphon Division, Robertshaw-Fulton Controls Co.

170 Oklahoma Building

In attendance

L. S. DYSART, FRANK PURDUM

Temperature controls, diesel-engine safety controls, packless valves.

(Check 189 for Further Data on Above)

Gardner-Denver Co.

Quincy, Ill.

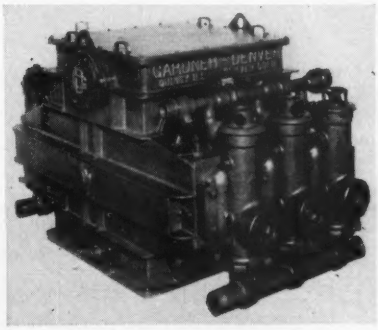
Block 7

In attendance

R. H. RODOLF, R. J. BAUER, C. E. WORTMAN, C. W. McKEY

With Continental Supply Co.

Cement pump; slush pumps; portable air compressor; sump pump; centrifugal pumps; air-starting motors.



Gardner-Denver cement pump

Several new products are shown in the exhibit. The PL-7 oil-service cementing pump has just been announced. Air-starting motors, radial type with five cylinders, are introduced for starting diesel, gasoline, or gas engines. The VP-4 sump pump is air-operated and features top suction which eliminates the common breakage of the oil and water seal.

(Check 190 for Further Data on Above)

Garlock Packing Co.

Palmyra, N. Y.

59-60 Texas Building

In attendance

FORD WILDERS, J. M. FOLEY

A line of mechanical packing, molded rubber, and sealing units for equipping and servicing all branches of the petroleum industry. Featured is the Garlock Klozure sealing unit for revolving shafts and Garlock Chevron for reciprocating shafts. The exhibit also includes new gasketing sheets of various heat and oil-resistant features.

(Check 191 for Further Data on Above)

AT THE TULSA SHOW.

See these COOPER-BESSEMERS.. they're making News!

You'll see a lot of your friends at the Cooper-Bessemer I.P.E. Building. They, and perhaps you too, will want to get a good look at these recently developed units that are already setting new records in efficient, low-cost compressing and pumping.

The Cooper-Bessemer men on hand will welcome your visits, will be glad to tell you all about these new units. They'll also be able to give you interesting information on other major Cooper-Bessemer developments . . . such as the *Turboflow* V-angle compressors with their incomparable fuel and space economy . . . and our latest gas-diesel refinement offering high efficiencies even at *fractional* loads!

Yes, if you're interested in *new* things, in new developments that add up to lower operating cost, we'll make your Cooper-Bessemer visit well worth your time.

Cooper-Bessemer Twin-Line liquid pump. Designed for capacities from 2400 to 50,000 barrels a day, up to 2,000 psi discharge. Offers tremendous weight and space savings, direct-connected engine drive, mechanical efficiencies exceeding 92%, and volumetric efficiencies from 93 to 96%.

Compressors · Pumps · Engines

New York Washington Bradford, Pa. Parkersburg, W. Va. San Francisco, Cal. Seattle, Wash

Garrett Oil Tools
Olsco Manufacturing Co.

Longview, Tex.

11 Park Lane

In attendance
PAT MASSEY, C. M. PETERS.

Valves and mandrels of various types, reserve check valves, relief valves, and controllers.

There is a complete working model of a two-valve installation; producing through a closed system. Oil is gas-lifted from the well bore and stored in a battery of four tanks. This tank battery is completely automatic in filling one tank and shifting into the next until all four tanks are filled. Limit switch valves on the tank outlet isolate any one tank in the battery when the pipe-line gager is running that particular tank.

The company has a complete display of all types of pressure-controlled and differential controlled valves; also its own dual-valve installed system wherein two sands can be produced simultaneously or one at a time.

Also on display is a full-opening-type pipe-line relief valve. The outstanding features of this relief valve are: full-opened valve, pressure-closed and pressure-opened. It is a nonweight-loaded or spring-loaded valve thereby eliminating any type of throttling action. It cannot be opened under high pulsation impulses due to a reciprocating pump being on the line.

(Check 192 for Further Data on Above)

Gar Wood Industries, Inc.

Wayne, Mich.

Block 13

In attendance
A. C. BERG, R. D. HILLER, E. D. WALLACE

Buckeye Model 51 ditcher, a new, heavy-duty pipe-line ditcher built to dig a ditch for the "Biggest Inch" pipe line. Cuts a ditch 51 in. wide and 8 ft. 8 in. deep.

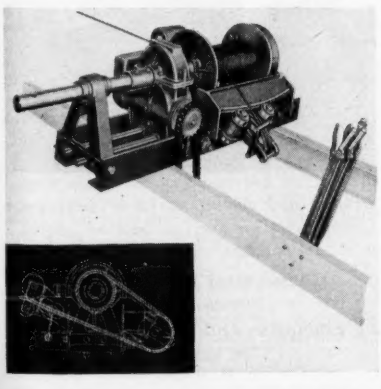
New Buckeye Model 312 pipe-line and heavy utility ditcher, diesel powered with hydraulic coupling.

Model 70 Power Hoe ¾-yd. capacity with combination diesel engine and hydraulic coupling.

Gar Wood Dozecaster and Model 106 winch on Allis-Chalmers tractor.

Tipdozer on Allis-Chalmers tractor.

Complete line of Gar Wood truck winches.



(Top right) The new Gar Wood Reel-Rite truck winch. The automatic spooling device, together with the automatic hydraulic tensioner, always spools the cable in even, close layers. (Lower left) Reeving diagram ... line from load passes through automatic tension device to automatic spooling unit to drum

Gar Wood 1,050-gal. marketer oil tank.

Specially featured is the new Gar Wood Reel-Rite truck winch which has a unique automatic spooling and tensioning device said to eliminate cable damage or breakage from loose and crossed coils. The device spools smoothly and tightly and the tensioning sheaves apply proper tension even when the cable is slack. The spooling unit is not mechanically linked to the winch drive so it automatically compensates for any change in rope diameter, stretch, speed, or wear.

(Check 193 for Further Data on Above)

Gaso Pump & Burner Manufacturing Co.

Tulsa, Okla.

Block W

In attendance
H. F. STOVER, T. H. FLANAGAN, A. V. SIMONSON, H. A. WIENECKE, A. L. MORRISON, W. L. SOMNER, J. A. McKINNA, H. G. LAWRENCE, RAY L. JAEGER.

Displaying: 4 to 7½ by 10-in. Gaso pump with Model D-13000 Caterpillar diesel engine with steel skids and V-belt drive; 2½ to 5½ by 10-in. Gaso pump with Model 6031 General Motors diesel engine with steel skids and V-belt drive; 2½ to 5 by 10-in. Gaso pump with Model D-471 Le Roi engine with steel skids and V-belt drive; 2½ to 5 by 10-in Gaso Pump with Model 6MZRU Waukesha engine with steel skids and V-belt drive; 2½ to 5 by 8-in. Gaso pump with Model L-525 Buda engine with steel skids and V-belt drive; 2½ to 4 by 6-in. Gaso pump with Model U-40 Allis-Chalmers engine with steel skids and V-belt drive; 2½ to 4½ by 6-in. Gaso pump with Model HP-326 Buda engine with steel skids and V-belt drive; 2½ to 4 by 6-in. Gaso pump with Model 6B-230 Buda engine with steel skids; 2½ to 5 by 10-in. Gaso pump with Model K-428 Buda engine with steel skids.

(Check 194 for Further Data on Above)

Gates Rubber Co.

Denver, Colo.

9-10 Texas Building

In attendance
HENRY A. PAGE

First display is a revealing animated illustration of how Gates patented concave side walls on all Vulco ropes induce greater pulling power with much less belt wear.

Next is a dramatic demonstration showing, through the use of an oscilloscope, how the resiliency of Gates V-belts adds life and smooth operation to every type of driven machinery. This demonstration clearly shows the easy treatment given machinery when V-belts are used.

There is also an enlightening story illustrated with colored slides of Gates new developments through research in hose and other rubber products—especially as they apply to the petroleum industry.

Finally, there is a demonstration of Gates newly developed pipe wiper, which virtually has a double life. An ingenious reversible cone principle introduces something really new in pipe wipers.

(Check 195 for Further Data on Above)

Gatke Corp.

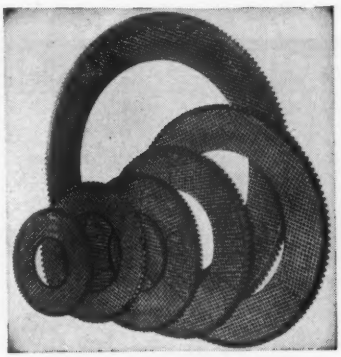
Chicago, Ill.

23-24-25 California Building

In attendance
THOMAS L. GATKE, FRANK T. GATKE, ARTHUR E. BERNGEN, H. W. BOYLE, W. A. RANKIN, LEE BOSWELL, D. W. DUNNING.

Woven brake lining, woven-molded brake blocks, molded brake blocks, automotive brake blocks, automotive brake linings, clutch facings, clutch blocks, molded frictions, asbestos packings, asbestos tape, cloth and rope, molded fabric bearings, molded fabric gears, molded fabric shapes.

Clutch facings which feature a balanced combination of molded and woven asbestos



Gatke improved clutch facings

structures are displayed. The combination is achieved through a process of assembling the woven asbestos material with molding compounds before molding to the required shape and size. Developed to meet severe service requirements of oil-field equipment, it is claimed this woven-molded structure maintains high frictional efficiency over a tremendous temperature range.

(Check 196 for Further Data on Above)

Gemco Oil Tools, Inc.

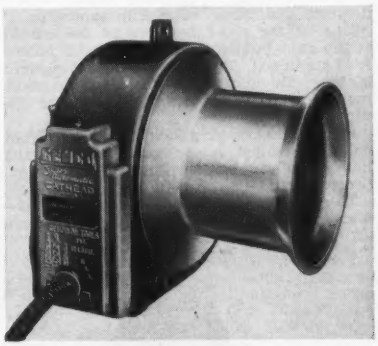
St. Louis, Mo.

19 Oklahoma Building

In attendance
J. H. SCHREIBER, WILLARD VOGEL, JOHN SMITH

Automatic catheads for breaking out, spinning and tonging drill pipe; positive and friction clutch types.

Showing a new friction-type cathead that can be used on either the rotary side or the driller's side or mounted between bearings of lineshaft as desired. It will break out or spin pipe, and it can be furnished for mechanical or air control. It is easy to install and its clutch requires no adjustment for the life of the lining.



Gemco A-5 cathead

(Check 197 for Further Data on Above)

General American Transportation Corp.

Chicago, Ill.

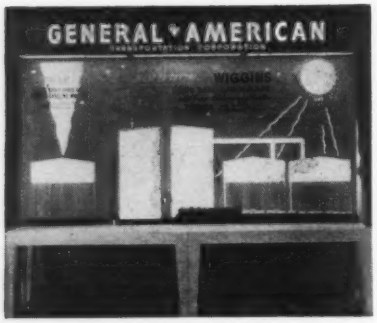
5-6 Oklahoma Building

In attendance
H. D. SKYRM, J. F. OLSEN, E. D. ROLLINS, J. D. CAMP

Wiggins conservation structures, Hidek

floating roof, Lodek floating roof, Dry Seal gasholder, Dry Seal lifter roof.

An animated display featuring the operation of the Wiggins Dry Seal Gasholder in conserving vapor losses from a battery of interconnected petroleum storage tanks



Animated display featuring Wiggins Dry Seal Gasholder

is shown, illustrating how variations in temperature and operating conditions can cause considerable loss of valuable fractions of stored product. The manner in which the Gasholder traps the vapor, otherwise lost, and returns it to the storage tanks is clearly demonstrated.

The companion conservation structures, the Wiggins floating roof and the Wiggins Dry Seal Lifter Roof, are also exhibited.

(Check 198 for Further Data on Above)

General Electric Co.

Schenectady, N. Y.

241-244 Oklahoma Building

In attendance

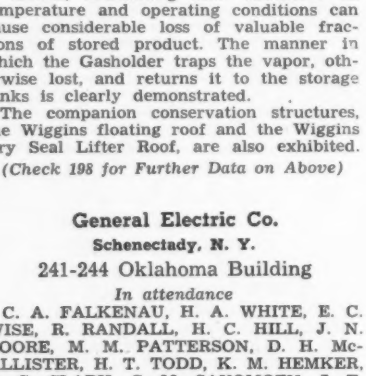
C. A. FALKENAU, H. A. WHITE, E. C. WISE, R. RANDALL, H. C. HILL, J. N. POORE, M. M. PATTERSON, D. H. McALLISTER, H. T. TODD, K. M. HEMKER, E. C. CLARK, C. M. SAYOMOEN, J. E. HAM, R. G. KNAUS, W. M. ANTHONY, T. E. ACORD, A. E. HOLLAND, I. T. HOCKADAY, W. A. WIRENE, J. T. FARRELL, R. D. LESSER, E. F. PATTERSON, W. F. HILDERBRAND, R. G. SMITH.

Mechanical-drive turbine, electronic motor-control center, amplidyne bit control, motors, welding equipment, cable, control devices, and other electrical apparatus.

One of the chief features of the exhibit is the first public showing of G.E.'s recently announced Type DP mechanical-drive turbine. In addition, there is a working model of the governing system of the turbine.

Another featured display is an electronically controlled motor-control center that has wide application in refineries and processing plants.

The new turbine is expected to have wide application in oil production and processing, such as a driving medium for pumps, compressors, fans, blowers, and similar equipment. It is available in ratings of 10 to 1,200 hp., with speeds of 1,000 to 5,000 r.p.m., and has been designed to include features determined from a survey of hundreds of turbine users, G.E. engineers say. As a result, the new unit includes such features of large turbines as hydraulic governing, for wider speed range and more accurate control, and pressure oiling of bearings to insure positive lubrication.



G.E.'s new small mechanical-drive turbine

The G.E. motor control center is designed so that all connections to it can be made from the front, thus permitting center units to be lined up against the wall or in back-to-back fashion in refineries or processing plants. The center consists of standard starter units which are slid into vertical, cabinet-type sections in building-block-style sections. Starters are available in five different sizes, each starter being a fully enclosed unit which can be arranged within the vertical sections to fit the requirements of the user.

In addition, one of the major exhibits is an actual installation of a drilling rig with amplidyne bit control. This project is the result of cooperation between the Continental Supply Co., whose drilling rig is featured, and General Electric Co., whose amplidyne bit control is shown installed on the rig.

General Electric is also cooperating with other exhibitors in joint displays of various equipments.

(Check 199 for Further Data on Above)

General Motors Corp.

Detroit, Mich.

Chevrolet Motor Division

Outside Hall of Science, Block 10

Cleveland Diesel Engine Division

Delco-Remy Division

Detroit Diesel Engine Division

General Motors Overseas Operations Division

GMC Truck & Coach Division

Harrison Radiator Division

Hyatt Bearings Division

New Departure Division

General Motors Overseas Operations Division, General Motors Corp.

New York, N. Y.

Block 10

In attendance

E. E. EBY, I. C. DRESSER, C. E. CORDES, AUGUST KRUG, E. BURKE, J. A. KOHNER, R. L. SKIDMORE, E. V. STIRBIS.

The international aspects of General Motors operation are graphically shown on a large-scale illuminated map of the world centered on the rear wall of the General Motors exhibit building. The map is flanked on each side by a complete listing of the products used by the oil industry and manufactured by General Motors.

Throughout the world with the exception of the continental United States and Canada, these products of General Motors are sold and serviced by General Motors Overseas Operations. Headquarters of this division are in New York. Here are controlled the activities of manufacturing plants, assembly plants, warehouses, branches, and offices strategically placed in vital overseas commercial areas. The petroleum industry is thus served on a worldwide basis by General Motors from bases already thoroughly established around the world.

(Check 200 for Further Data on Above)

General Paint Corp.

Tulsa, Okla.

56 Scientific and Technical Building

In attendance

GEORGE HOWARD, MARION PICKELL
R. A. McCARTHY

As a paint manufacturer, the company shows various kinds of special finishes on large steel panels, of interest to all personnel connected with the oil industry. Descriptive literature is available on all finishes shown. In addition, there are samples of various diameter steel pipe protected with various specifications of coal-tar enamel and felt as applied in the pipe mills by the Hill-Hubbell process.

(Check 201 for Further Data on Above)

Geolograph Co., Inc.

Oklahoma City, Okla.

49 Scientific and Technical Building

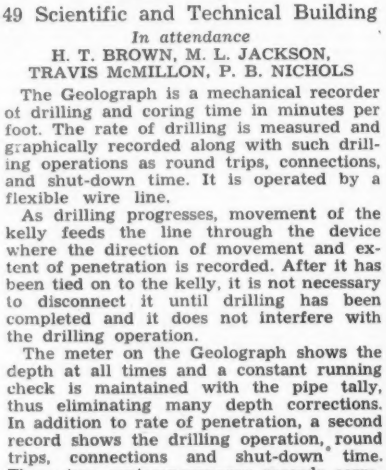
In attendance

H. T. BROWN, M. L. JACKSON,
TRAVIS McMILLON, P. B. NICHOLS

The Geolograph is a mechanical recorder of drilling and coring time in minutes per foot. The rate of drilling is measured and graphically recorded along with such drilling operations as round trips, connections, and shut-down time. It is operated by a flexible wire line.

As drilling progresses, movement of the kelly feeds the line through the device where the direction of movement and extent of penetration is recorded. After it has been tied on to the kelly, it is not necessary to disconnect it until drilling has been completed and it does not interfere with the drilling operation.

The meter on the Geolograph shows the depth at all times and a constant running check is maintained with the pipe tally, thus eliminating many depth corrections. In addition to rate of penetration, a second record shows the drilling operation, round trips, connections and shut-down time. These two contemporaneous records correlate and supplement each other.



Over-all and closeup views of Geolograph

(Check 202 for Further Data on Above)

Geophysical Research Corp.

Tulsa, Okla.

51 Scientific and Technical Building

In attendance

W. B. KENDALL

Amerada-type bottom-hole recording pressure gage and thermometer element.

(Check 203 for Further Data on Above)

Geuder, Paeschke & Frey Co.

Milwaukee, Wis.

30 Silver Lane

In attendance

WILLARD J. FLINT, A. NORMAN DIECKS,

GEORGE HARRINGTON

Small steel shipping pails and drums, sizes 1 to 6½ gal.; 5-gal. kerosine-type oil cans; 25-lb. E-Z fill grease gun loader pail.

This year the company is introducing several new additions to its line of small steel shipping containers. The E-Z-Fill grease-gun-loader pail and the new G.P.&F. pouring spout are foremost among these. The E-Z-Fill pail is said to be a splendid and sales-stimulating way of packaging chassis lubricants and cup greases.

The new G. P. & F. pouring spout, self-venting spout that pours without gurgling and bubbling, will be demonstrated. In addition to these there are the regular line of containers—kerosine-type oil cans, pour pails, drums and grease pails.

(Check 204 for Further Data on Above)

Glass Fibers, Inc.

Waterville, Ohio

East of Kansas Building

Exhibiting with M. J. Crose Manufacturing Co.

(Check 205 for Further Data on Above)

G.M.C. Truck & Coach Division, General Motors Corp.

Pontiac, Mich.

Block 10

In attendance
FRANK DOUBET

G.M.C. Model FC-455 (conventional chassis and cab), G.M.C. Model AC-805 (conventional chassis and cab), G.M.C. Model ADCW-979 (six-wheel, dual axle drive chassis and cab).

Three heavy-duty truck models, engineered for oil-field work, comprise the exhibit. All three trucks are suitable for various phases of oil-field operation, and are all chassis and cab units in order that their mechanical construction may be visible.

Outstanding in the exhibit is a giant six-wheeler with both rear axles driving. This G.M.C. Model ADCW-979 is powered with a G.M. 6-71, six-cylinder, two-cycle diesel engine, and has a gross vehicle weight of 55,000 lb. The wheelbase of the truck is 286 in. to accommodate the standard body length used in oil-field work. There is a five-speed syncromesh main transmission with a three-speed auxiliary transmission, having a power tower or top-mounted takeoff in order to make power available for the winch to be used in heavy duty oil field operation. Brakes are air operated, and this vehicle is the largest heavy-duty truck built by G.M.C. Truck & Coach.

Another truck in the exhibit is a G.M.C. Model AC-805 with a wheelbase of 196 in., powered by a valve-in-head engine of 426 cu. in. displacement. It is equipped with a double reduction axle and a five-speed syncromesh main and three-speed auxiliary transmission with a power tower takeoff.

The third truck is a Model FC-455 with a wheelbase of 197 in., powered with a 270-cu. in. engine, and equipped with a heavy-duty double-reduction axle, radius rods, four-speed main transmission and a three-speed auxiliary transmission, and hydraulic brakes.

All three of these oil-field trucks have recirculating ball-bearing steering and an overflow tank which prevents loss of water in the cooling system due to expansion and surging.

(Check 206 for Further Data on Above)

Goode Equipment Co., Inc.

Houston, Tex.

5 Texas Drive

In attendance
J. H. GOODE, J. H. GOODE, JR., FLOYD C. MOBERLY.

Goode "Double Seal" wing unions, combination adjustable nipple, and adjustable nipples. Bettis drill-pipe protectors and installation equipment, and drill-pipe wipers. D. & M. steel-core pistons. Saunders ball-lock oil saver and sleeve-valve swab.

(Check 207 for Further Data on Above)

Great Lakes Steel Corp., Stran-Steel Division

Detroit, Mich.

Block 107

In attendance
M. E. VAN VLIET, D. T. ALLEN, C. A. PAVEY, C. B. TRUITT.

Stran-Steel nailable framing and Quonset all-steel arch-rib buildings.

Practical uses of Stran-Steel nailable framing and all-steel arch-rib Quonset buildings in the petroleum industry are shown in the booth. Housing the exhibit—and the exhibits of some others—is a 40 by 80-ft. Quonset building.

(Check 208 for Further Data on Above)

Greb X-Ray Co.

Kansas City, Mo.

24 Scientific and Technical Building

In attendance
GORDON G. GREB, DEWEY N. PARKER, FRANK R. BLACK

Picker X-Ray diffraction unit.

X-Ray diffraction is now recognized as a superior method of quantitative and qualitative analysis in certain problems found in all phases of the oil industry. The Picker diffraction unit offers distinctive advantages in both the flexibility and accuracy of a complete new line of cameras.

(Check 209 for Further Data on Above)

Grove Regulator Co.

Oakland, Calif.

36-37 Texas Building

In attendance
M. H. GROVE, W. G. CRAIG, J. E. RAYMER, MISS G. LINS, R. M. WITT

Grove Flexflo Model 80 remote control valves, check valves, Powreactor dome regulators, seat-seal valves, bar-stock valves, strainers.

(Check 210 for Further Data on Above)

Gulf Publishing Co.

Houston, Tex.

181-183 Oklahoma Building

(Check 211 for Further Data on Above)

Guiberson Corp.

Dallas, Tex.

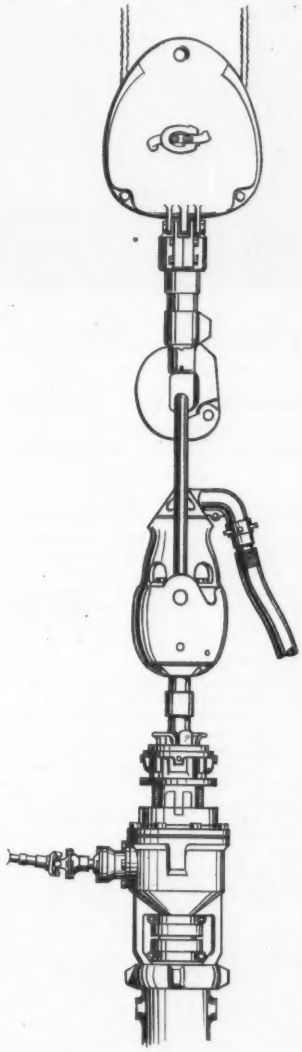
217-218-233-234 Oklahoma Building

In attendance
A. PRANGER, S. T. ALTON, R. A. DAY, N. H. ANDERSON.

New swivel, new rotating drilling head, kelly, tubing block and hook, control head and formation packers, tubing and casing swabs, tubing catchers and anchors, tubing spiders, tubing and sucker-rod strippers, unions, gas-lift equipment.

The exhibit shows a representative selection of oil tools and equipment produced by the company. Featuring the display is the hookup sketched here, which is made up of the unitized tubing block and hook, the new swivel, and the Type "J" drilling head. All are products developed by the company since the last oil show and are exhibited for the first time.

Additional booths contain swabbing equipment, tubing catchers and anchors, a packer display, and one on the several types of drilling and swabbing equipment long prominently identified with the company.



Hookup exhibit

(Check 212 for Further Data on Above)

Gustin-Bacon Manufacturing Co.

Kansas City, Mo.

26-27 Silver Lane

In attendance
C. H. ARMSTRONG, P. O. CRAIG, D. W. MARTIN, H. M. STONE, M. C. BEAVER.

Ansul-Dugas fire extinguishers; Rolagrip pipe couplings; Gruvagrip pipe couplings; Flexigrip tubing fittings; Expan-seal plungers for oil-well pumps; G-B Blue Bonnet stuffing box with Meshtite rubber.

(Check 213 for Further Data on Above)

D. W. Haering & Co., Inc.

Chicago, Ill.

127-128 Kansas Building

In attendance
V. W. HAERING, E. H. SNYDER.

This company pioneered in the petroleum industry in controlling scale and corrosion. Many petroleum plants have used the Haering organic glucosates in corrosion, scale, and algae control in cooling, towers,

condensers, compressors, engine jackets, boilers, and many other water-using equipment.

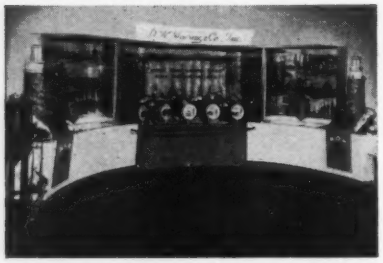


Photo of D. W. Haering & Co., Inc., display

(Check 214 for Further Data on Above)

Halliburton Oil Well Cementing Co.

Duncan, Okla.

Block K and east of Block K on Arcade Way

In attendance

GROVER KILGORE, J. WALTER WOODS

Super-Cementer truck; floating equipment; measuring devices; formation-testing tools; removable squeeze packers; drillable squeeze packers; multiple stage tool; electrical logging; electrical caliper; side-wall coring tools; gun perforating; acid; plastics; Calseal; Sandlac; Roto weld cleaner; casing centralizers.

This exhibit uses the world as a central theme. This world globe is 60 in. in diameter and revolving around this globe is a plane with model cementing trucks, acidizing truck, bulk cement convoy, and a jeep truck. There are 36 lights flashing on and off all over the world, showing the different locations in which the company operates throughout the world. Individual displays are linked to the central theme display through radio beams at the ceiling which extend to develop into partitions.

Aisles, wall section, and display areas have been angled to obtain the clearest visibility for displays and to assist in directing traffic and to create pleasant space divisions. Two murals have been placed, one on each side of the building, and seating arrangement is provided where the theme display and murals may be viewed to advantage. The entrance is designed to provide a partial view through a screen of illuminated lucite rods and global pattern, which serves to introduce the unified theme of the exhibition, the Halliburton world-wide service as depicted by the new trademark.

(Check 215 for Further Data on Above)

Hammel-Dahl Co.

Providence, R. I.

45-46-57-58 Scientific and Technical Building

In attendance

BRUCE A. IRWIN, E. T. DAHL.

Type 7505 Microflo control valve with 3,000-lb. Type 316 stainless-steel body, screw ends, with No. 7 solid Stellite spline plug.

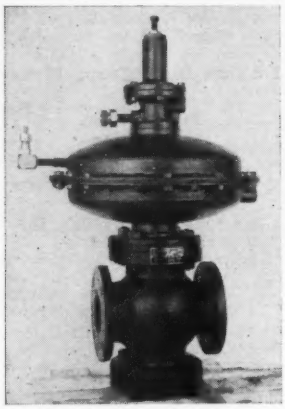
Type 3,232 diaphragm control valve with cast-iron body, screw ends, single-seat valve plug.

Type 3842 diaphragm control valve with cast-steel body flanged F & D for 300-lb. A.S.A. standard, equipped with continuously connected handwheel.

Type 5842 supersensitive gas regulator with 300-lb. A.S.A. flanged cast-steel body, stainless-steel trim, pressure range 10-50 psi.

Type 3644-BSZ diaphragm control valve, Type 316 stainless steel body, with 300-lb. A.S.A. standard flanged ends.

Type 7732 Venturiflo angle valve with 600-lb. cast-steel A.S.A. flanged body, with Venturi throat of the retained-seat-type construction.



Type 5842 supersensitive gas regulator

(Check 216 for Further Data on Above)

H & M Pipe Beveling Machine Co.

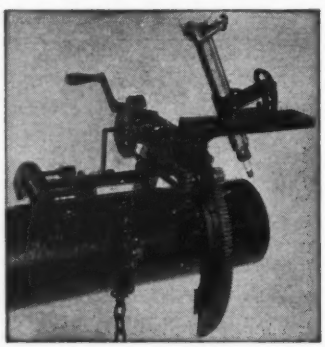
Tulsa, Okla.

129 Kansas Building

In attendance

C. B. HARTER

H & M pipe-beveling machines.



The H&M pipe-cutting and beveling machine

(Check 217 for Further Data on Above)

Happy Co.

Tulsa, Okla.

Terrace Space on Arcade Way, Block J

In attendance

PAUL E. MAHAFFEY, LEO C. KING, ROY C. LINDLEY, ROWDY ROBSON, ORVILLE L. SMITH, J. ROBT. MEEK, JACK SIMPSON.

W. H. GOREY, WILEY SWEARENGEN, CHARLES STANLEY, ED ALLAN, JIMMIE ALLEN, BUS WILLIAMS, G. H. HOPKINS.

H. J. KINKADE, JON R. LONG, COTTON RUNDLE, BEN SHELTON, CHARLEY KITCH, BILL McCRACKEN, JOHN RITTER, JOE ROYER.

Terrace Space: Pumping unit, beam switch, engine starter, belt tightener, belting, belt connections, belt dressing, belt cement, balls and seats, stuffing box rubbers, valve cups, Ruscalo, litmus testers.

Block J: V.A.D.-16 cooling unit, standard and master series cooling units, Vortox LB-50 air cleaner.

(Check 218 for Further Data on Above)

Harley Sales Co.

Tulsa, Okla.

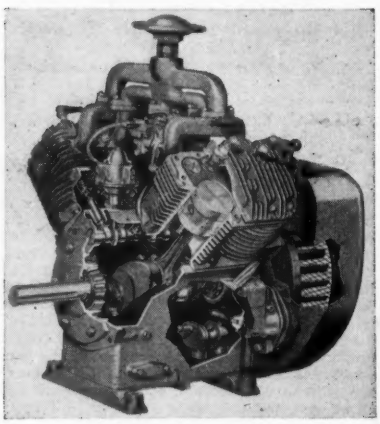
Block 4

In attendance

A. H. KNIEF, GEORGE KLUPPEL, BOB MOOG, RAY FELLOWS, ROY O. NEAL, JOE OWENS, S. D. BOWLES, FRED DICKERSON.

Wisconsin Air-Cooled Engines; Roper Rotary Pumps.

Wisconsin air-cooled heavy-duty engines are manufactured by the world's largest builder of air-cooled engines. These engines are sturdy, compact, and economically operated. The horsepower ratings are quoted at comparatively low speeds sometimes as much as 1,000 r.p.m. less than other engines of the same piston displacement. They are made to operate at full load for continuous duty, a requirement in oil-field service. The most advanced engineering and modern metallurgy are



Cutaway of a UE-4 and UF-4 engine which is widely used in oil fields

used in their design and construction. Many of the models are especially designed for oil field applications with extra heavy flywheels to give a high WR^2 factor, special valves and inserts for high-B.t.u. gas, safety features especially required, and cylinder heads having a sufficiently high compression ratio for oil field fuels.

On exhibit are cutaway models of engines showing internal construction, and many types of units that are being used in the oil fields. Engines are shown connected through belts and flexible couplings to Curtis Manufacturing Co. compressors, Goulds Pumps, Inc., pumps, Worthington Pump & Machinery Co. pumps, Geo. D. Roper Corp. rotary pumps, Deming Co. triplex high-pressure pumps, National Transit Pump & Machine Co. rotary pumps, Greenfield Manufacturing Co. electric lighting plants, and Gardner-Denver Co. compressors. Engines with clutches and clutch reduction assemblies are used. The new two-cylinder model engine is also shown.

(Check 219 for Further Data on Above)

Harrisburg Sales & Service, Inc.

Houston, Tex.

132 Kansas Building

In attendance

J. E. SNODDY

Harrisburg Super-Diamond hard liners, Time Saver rods, pistons and piston rubbers.

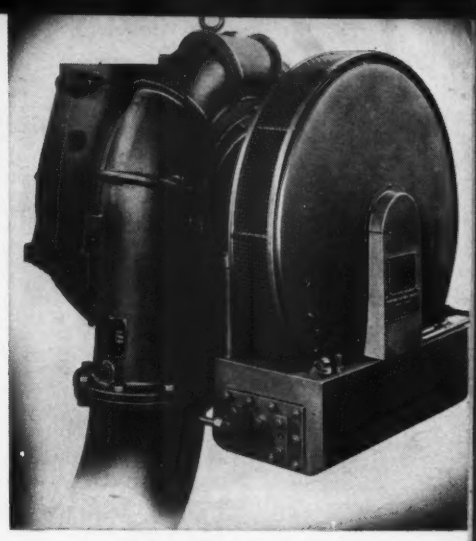
Harrisburg Super-Diamond hard liners are forged from controlled-analysis steel developed to give a maximum wear resistance and hardness necessary for slush pump

BLOWERS

Multi-stage, single-stage, turbine or motor driven. For non-stop operation as gas boosters — for cat crackers—absorption processes—sulphuric acid plants — asphalt plants — oxygen and synthesis plants.

TUBE CLEANERS

Tube cleaning equipment that turns "Down time" into "Quick time", for every tube or pipe that must be cleaned — backed by 50 years' experience in solving tube cleaning problems.

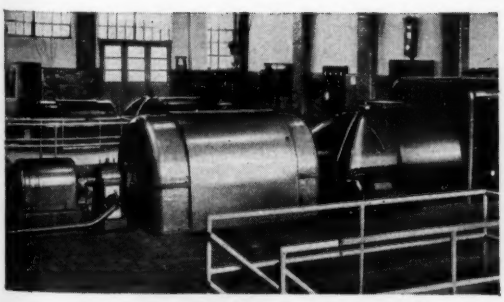


TURBOCHARGERS

Elliott-Buchi turbochargers are everywhere boosting Diesel power, and saving fuel. Exhaust gases provide power—no additional engine power required—fully automatic. For four-cycle Diesel engines, 250 hp and larger.

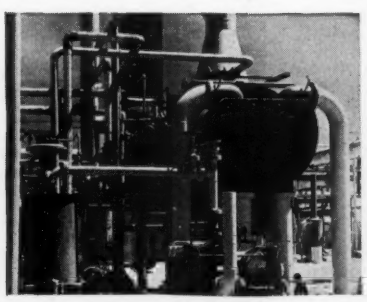
line-up—

AT THE PETROLEUM EXPOSITION *and* THROUGHOUT THE INDUSTRY



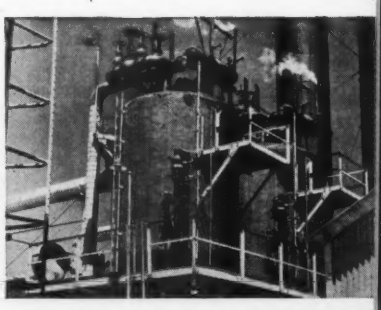
TURBINE-GENERATORS

Both turbine and generator designed and built together — a complete Elliott unit.



CONDENSERS

Surface and barometric condensers in capacities as required in oil industry power plants.



DEAERATING HEATERS

Applying principles developed by Elliott in pioneering deaeration, delivering oxygen-free boiler feed water.

Q-1136

RIDGWAY, PA. • SPRINGFIELD, O. • NEWARK, N. J. • *DISTRICT OFFICES IN PRINCIPAL CITIES*

service. Honed after hardening to produce a perfect bore with a perfect finish.

Time-Saver rods permit piston changes or replacement of piston rubbers without removing rods from pump, resulting in less shutdown time, increased rod packing life and reduced inventory of rods in the toolhouse. Three-piece piston is a straight-line assembly on Time-Saver rods, using a simple piston body plate and replaceable Harrisburg piston rubbers specially designed to handle the high pressures and fluid volumes used in the slush pumps of today.

(Check 220 for Further Data on Above)

Harrison Radiator Division, General Motors Corp.

Lockport, N. Y.

Block 10

In attendance
F. H. CARTER, H. W. LLOYD

Radiators, oil coolers, jacket water coolers, various extended surfaces.

The exhibit comprises a number of large fin-and-tube radiators such as are used on diesel locomotives, large trucks, generating sets, and similar applications. There is also shown a selection of lubricating-oil coolers and jacket water coolers which are used on diesel and gasoline engines, pumps, machine tools.

In addition, there are samples of various extended surfaces which have been used in distilling apparatus, surface air coolers for electrical equipment, and freon condensers.

A representative line of Harrison jacket water coolers and lubricating oil coolers are shown with samples of a new line being developed. These have long been used in numerous makes of diesel and gasoline engines for both marine and industrial use.

A Harrison supercharger aftercooler is also on show. This is used on supercharged diesel or gasoline engines and is of the liquid-cooled type. The tube and center used in this aftercooler was developed during the war for use on the engines in PT boats.

(Check 221 for Further Data on Above)

Hazard Wire Rope Division, American Chain & Cable Co., Inc.

Wilkes-Barre, Pa.

7-8 Texas Building

In attendance
H. S. BRADY, J. R. McCREA, J. P. TUNE, R. C. POWER, B. N. BURNS.

Lay-Set preformed wire rope for rotary drilling lines; bailing, coring, and swabbing lines; tubing and sucker-rod lines; winch lines; Nonparell nonpreformed wire rope.

(Check 222 for Further Data on Above)

Heinn Co.

Milwaukee, Wis.

49 California Building

In attendance
RALPH B. WHITE, WM. H. TRUAX, JR.

Loose-leaf catalog binders, leather sales pacs, custom-made index sets.

(Check 223 for Further Data on Above)

Helicoid Gage Division, American Chain & Cable Co., Inc.

Bridgeport, Conn.

174 Oklahoma Building

In attendance
J. V. TRACY.

Helicoid pressure gages for oil-field services.

(Check 224 for Further Data on Above)

Heil Co.

Milwaukee, Wis.

Block 102

Trailerized petroleum transport tank, truck bodies, dump bodies, hoists, bulldozers, power control units.

Typical of the large number of Heil truck bodies and hoists at work in the oil fields is this unit. These dump bodies and twin-arm hydraulic hoists are available for general utility work and specific assignments, range in capacities from 1 to 20 tons

(Check 225 for Further Data on Above)

Hendershot Tool Co.

Oklahoma City, Okla.

34 Silver Lane

In attendance
HERMAN B. HENDERSHOT, CLARK C. WRIGHT

Midco slush pump valves and seats, Midco patented cleanout bailers, Midco hydrostatic bailers, Midco drag bits, process of resleeving rotary drill collars and tool joints.

(Check 226 for Further Data on Above)

Hercules Motors Corp.

Canton, Ohio

76-77-78-133-134-135 Oklahoma Building

In attendance
J. A. LUPFER.

Twelve different models of power units and engines are exhibited.

Model HXE closed-type six-cylinder power unit is one of the largest in the Hercules line of gasoline engines. It has a 5¾-in. bore and 6-in. stroke and a piston displacement of 935 cu. in. It is in actual operation.

Model DFXH open-type six-cylinder power unit is powered with a Hercules diesel engine with a 5¾-in. bore and 6-in. stroke. It has a piston displacement of 935 cu. in. and is a parallel of the Model HXE gasoline power unit for high-speed, heavy-duty service. This power unit also is in operation.

Model DNX-V8 is one of the latest Hercules developments. It is an eight-cylinder base-type power unit. This is the commercial outgrowth of a 32-cylinder engine Hercules Motors Corp. built for the United States Navy during the war and which, at that time, went through exhaustive tests and proved sound in design, principle of operation, and construction. The Model DNX-V8 is built in three sizes.

Model QXC5 closed-type six-cylinder gasoline power unit has a 3⅜-in. bore and 4⅛-in. stroke and a piston displacement of 221 cu. in.

Model DOOD four-cylinder diesel power unit is of the closed type. It has a 4¼-in. bore and 4½-in. stroke and a piston displacement of 255 cu. in.

Model WXLC3 six-cylinder gasoline power unit is of the closed type with a 4¼-in. bore and 4¾-in. stroke. Piston displacement is 404 cu. in.

Model RXLD six-cylinder gasoline power unit of the open type has a 4¾-in. bore and 5-in. stroke and a piston displacement of 558 cu. in.

Model JXD six-cylinder gasoline power unit of the closed type has a 4-in. bore and 4¼-in. stroke. It has a piston displacement of 320 cu. in.

Model DJXC six-cylinder diesel power unit is of the closed type. It has a 3¾-in. bore and 4½-in. stroke. Piston displacement is 298 cu. in.

Model IXB four-cylinder gasoline power unit has a bore and stroke of 3¼-in. by 4 in. and a piston displacement of 133 cu. in.

Typical closed-type Hercules power unit

Model ZXB four-cylinder gasoline power unit is of the closed type. Bore and stroke are 2⅝ in. by 3 in. Piston displacement is 65 cu. in.

Mounted on pedestals are two models of Hercules engines. Model DOOD four-cylinder diesel engine is the same as mounted in the Hercules power unit. Model DIX-6 diesel engine is another late development of the company. It is a small six-cylinder diesel with a 3⅝-in. bore and 4-in. stroke. This engine is capable of operating successfully at speeds up to 3,000 r.p.m. The stripped engine develops 93 hp. and only weighs approximately 750 lb.

(Check 227 for Further Data on Above)

Hercules Tool Co.

Tulsa, Okla.

7-8-9 California Building

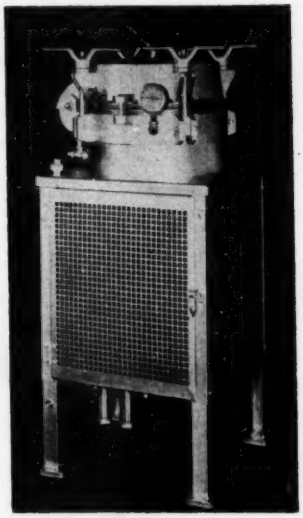
In attendance
S. P. TSCHAPPAT, L. C. RHOADS, DAN E. TSCHAPPAT, R. J. HEWSON, HAROLD CALLAHAN, CLARENCE H. COPELAND.

Hercules tubing hangers, Hercules upset-thread pumping and flowing tee, Hercules duplex polished-rod stuffing boxes (all types), stripper-type tubing heads, several types of tubing heads, several types of casing heads, tubing spider, Louisiana pattern casing heads, special tubing and casing heads for wells using Reda pumps, special tubing heads for wells using Kobe pumps and for input wells, miscellaneous oil-well equipment.

(Check 228 for Further Data on Above)

Hewitt Rubber Division, Hewitt-Robbins, Inc.
Buffalo, N. Y.
Block 3
Exhibiting with Mid-Continent Supply Co.
In attendance
R. E. CRANE, L. D. BIGELOW, F. H. DICKINSON, WEBB SNOWDEN, MARION AUSTIN.
(Check 229 for Further Data on Above)

Hilliard Corp.
Elmira, N. Y.
153 Oklahoma Building
In attendance
T. A. LaBRECQUE, D. J. CONDIT, H. M. COTTON, E. A. MOOERS.



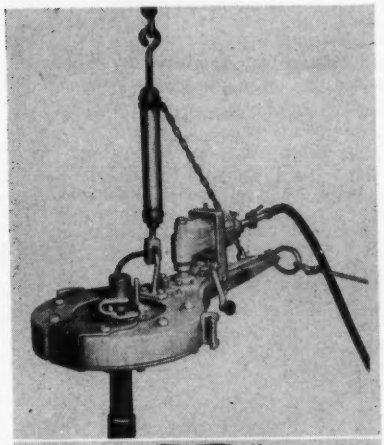
Hilco oil reclaimer

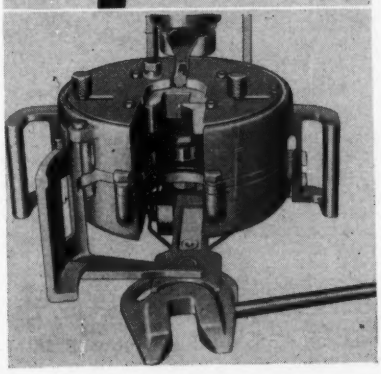
Hilco oil reclaimers, Hyflow lube-oil filters, and Hyflow fuel-oil filters.

Among the items of lubricating and fuel-oil maintenance equipment on exhibit are Hilco oil reclaimers, which are generally direct-connected to the lubricating system of one or more diesel or gas engines for continuous or intermittent bypass purification of the lubricating oil. These units withdraw oil from the bottom of the engine sump or crankcase, pass it through a filter for removal of carbon, sludge and acids, and then through an evaporator, where water, moisture and fuel diluation are removed, to restore the oil to new-oil condition. Various types of filtering materials and other Hilco lubricating and fuel-oil maintenace equipment are also on exhibit.

(Check 230 for Further Data on Above)

Hillman-Kelley
Los Angeles, Calif.
18-19 Silver Lane
In attendance
JAMES C. KELLEY.

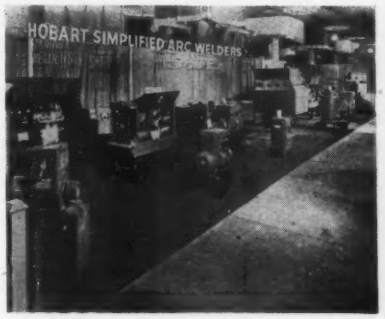




Tubing tong and sucker rod wrench
(Check 231 for Further Data on Above)

Hobart Brothers Co.
Troy, Ohio
10 to 16 Kansas Building
In attendance
R. L. SHERWOOD, R. C. BERCAW
C. H. MINTON, E. K. BUTTERFIELD

Arc Welders: d.c. electric-motor driven, d.c. gasoline-engine driven, d.c. diesel-engine driven, d.c. welding generators, d.c. gasoline-engine driven with a.c. power unit, a.c. gasoline-engine driven with a.c. auxiliary power unit, a.c.-a.c. transformer type, Heliarc a.c. welders.



Hobart Arc Welders as they are displayed

Exhibit is of the operating type, that is, facilities have been made to demonstrate Hobart arc welding equipment including the Heliarc or inert gas-welding process.

(Check 232 for Further Data on Above)

Hoerner Corp.
Keokuk, Ia.
18 Kansas Building
Exhibiting with South West Box Co.
(Check 233 for Further Data on Above)

Hopeman Equipment Co.
Seminole, Okla.
88 Oklahoma Building
In attendance
JOHN C. BURGE, R. J. "RAY" CALDWELL, D. L. ADKINS, LLOYD R. HOPEMAN, W. F. "FRANK" DONHAM, LESTER A. FISHEL, GLENN GIBSON.

Waukesha engines and parts; Twin Disc clutches and parts, hydraulic couplings, and torque converters; Edwards wire rope; Kohler electric-light plants; S-K-F roller bearings.

(Check 234 for Further Data on Above)

Charles N. Hough Manufacturing Co.
Franklin, Pa.
123-124 Texas Building
In attendance
CHARLES N. HOUGH, BERT B. WERTMAN, LEROY L. REIB, KELLY S. CURRY, HOWARD H. FRANCIS, WILLIAM J. IRWIN, MARTIN J. LOWE, JR.; JAMES L. MILLER, DAVID E. SMITH.

Hough oil well specialties: specialized balls and seats: Steelex, Bronzex, Repelex, Combinex, Kamonex, Resistex, Utilex; seamless steel, seamless bronze and chrome-plated working barrels; working-barrel valves of all types; Protex upper valves; oversize lower valves; Sealex plungers and packing rings; Flex-Seal plungers and packing rings; K-W plunger pump; Huf M-T-L insert pump, Huf-Duo insert pump, Huf-Nu-Duo insert pump, Huf-Supersize insert pump, Huf-Stripper insert pump and Huf-Lewis insert plunger pump.

Polished rods: common steel, piston-rod steel, stainless steel, bronze and Monel Metal; polished-rod liners. Stuffing boxes: bronze and malleable iron; Williams lower-valve pullers; rod couplings and substitutes; tong bits; sucker-rod sockets; ignition tubes; adjusters.

(Check 235 for Further Data on Above)

Houston Oil Field Material Co., Inc.
Houston, Tex.
Block 103
In attendance
FRANK BRIGGS, LEON SINGLETON.
Homco cutting and fishing tools, direc-

Check It . . . Mail It . . .

IN connection with the "numbered" list of exhibits and exhibitors on these pages for the convenience of its readers the Journal has arranged a special "Check It" . . . Mail It" free information service on the 1948 Oil Exposition.

In this section will be found a perforated prepaid JUMBO free information card, which can be checked or circled against the corresponding "numbers" of the exhibitors listed here.

Whether or not you attend the International Petroleum Exposition in person, this Oil Exposition Issue of the Journal and the Journal's special "Check It . . . Mail It" Jumbo service card will bring you complete Oil Show coverage.

tional-drilling equipment, test rig in actual operation, pipe-inspection equipment, mud and chemicals.

Industrial and machinery equipment: Pacific wire and rope, Bob Bailey photography, Hughes Tool Co. bits, Hillman-Kelly tongs.

Also a continuous showing of the Homco movie, "The Little Red Coupe," on Homco gas dehydration.

(Check 236 for Further Data on Above)

Hughes Tool Co.

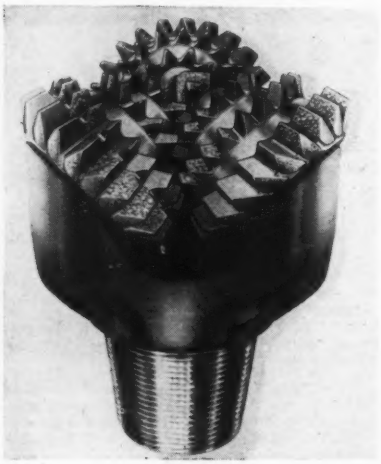
Houston, Tex.

Block 106

In attendance

GUS MEYER, W. L. HUNTER, R. E. KIMSEY, R. L. LONG, W. H. SIEMS

Hughes Tricone rock bits, Sealgrip and Flashweld tool joints, Type J core bit.



One of the Hughes Tool Co. products which will be on display at the Exposition

(Check 237 for Further Data on Above)

Humble Oil & Refining Co.

Houston, Tex.

13-14 Oklahoma Building

Breaxit emulsion breaker.

The display shows a working model of a lease oil-treating plant showing method of treating crude oil in the field, together with samples of crudes and desalting chemicals.

(Check 238 for Further Data on Above)

Hunt Tool Co.

Houston, Tex.

199-200 Oklahoma Building

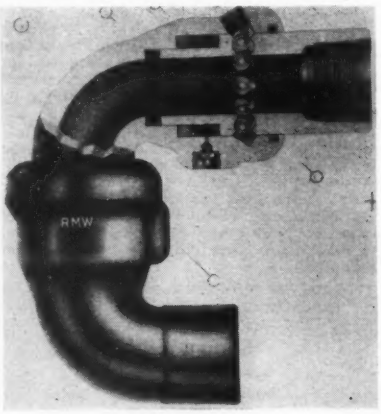
In attendance

W. J. NUTTO, W. H. SMITH

One of the chief features of the exhibit is the Roofe swivel joint which has been used throughout the oil industry for more than 2 years. Hunt Tool Co. this year purchased exclusive manufacturing and distribution rights to the product.

The joint has a packing and bearing design that makes it easy to assemble or disassemble on the derrick floor, a full-size streamline bore through the joint, a specially designed packing chamber that permits lubrication under pressure, and a bearing area that assures alignment of all working parts.

In addition the company also displays its conventional wire-line core barrels, sidewall coring equipment, bits, and valves.



Roofe swivel joint

(Check 239 for Further Data on Above)

Hutchison Engineering Works

Houston, Tex.

79-80 Kansas Building

In attendance

F. E. HUTCHISON, DICK CONLEY, CECIL CURTIS, ROBERT MASSEY

Large "Rumba" model shale shaker.

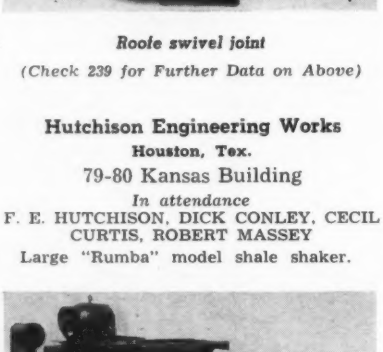


Photo of Rumba model shale shaker

(Check 240 for Further Data on Above)

Hyatt Bearings Division, General Motors Corp.

Harrison, N. J.

Block 10

In attendance

H. K. PORTER, J. L. HAYNES, J. M. KELLY, J. A. TRAIL, C. L. NEWBY, J. R. GILMARTIN, F. H. WEBSTER, R. W. FRAZER, L. L. HILL, L. S. NAGLE, H. M. CARROLL.

Roller bearings: "Hy-Load," "Industrial Inch," "Solid Junior Roller," "Spherangular," "Wound Roller."

The Hyatt Hy-Load series bearings are shown with separable inner races, separable outer races, or in nonseparable types. The component parts are interchangeable thus facilitating assembly of the equipment into which they are designed.

The exhibit also shows the "Industrial Inch" series of bearings which are designed for slow-moving heavily loaded machinery where large-diameter shafts are the rule. They are available in fractional size bores from 4 in. upwards. "Spherangular" angular contact, self-aligning bearings, "Wound Roller" type bearings, and "Solid Junior Roller" type bearings are also on display.

(Check 241 for Further Data on Above)

Hydril Co.

Los Angeles, Calif.

Booth 1, Block F

In attendance

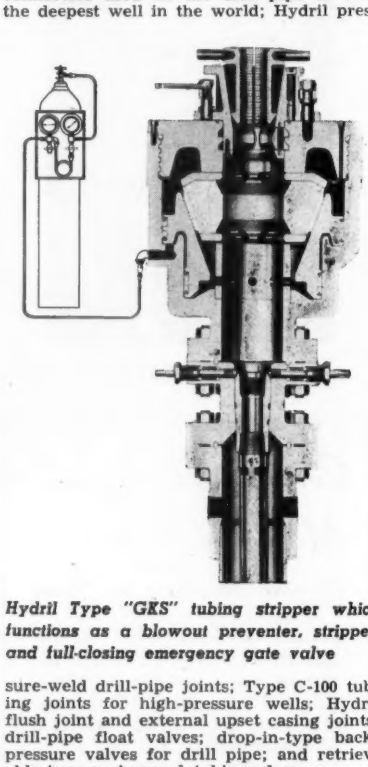
EARL M. DANIELS, W. H. RIGGINS
C. E. McCARTHY

Drill pipe, tubing, and casing joints, type "GK" blowout preventers, type "GKS" tubing strippers, automatic accumulator unit for operating "GK" preventers. Inside blowout preventers: Retrievable type casing plugs, retrievable type tubing and drill pipe plugs, drop-in type back pressure valve, drill pipe float valves.

Actual field models of the 10-in. Series 900 Type "GK" blowout preventer and the 6-in. Series 900 Type "GKS" tubing stripper, with accessory tubing control assembly, are shown. Equipment for operating these units is installed and the demonstrations include closing the packing unit on the square kelly, drill pipe, and tool joints, stripping collars and tool joints, and closing as an emergency gate—all under high pressures simulating field conditions.

Operating pressure for the preventer is furnished by a Hydril automatic accumulator unit.

Displays also show the Hydril "Twinpin" connectors used on the drill pipe to drill the deepest well in the world; Hydril pressure-weld drill-pipe joints; Type C-100 tubing joints for high-pressure wells; Hydril flush joint and external upset casing joints; drill-pipe float valves; drop-in-type back-pressure valves for drill pipe; and retrievable-type casing and tubing plugs.



Hydril Type "GKS" tubing stripper which functions as a blowout preventer, stripper, and full-closing emergency gate valve

(Check 242 for Further Data on Above)

Hyster Co.

Peoria, Ill.

26-27-28 Park Lane

(Check 243 for Further Data on Above)

Independent-Eastern Torpedo Co.

Tulsa, Okla.

Block L

In attendance

W. M. McFARLAND

Shooting trucks.

(Check 244 for Further Data on Above)

Independent Supply Co.

Tulsa, Okla.

32-33-34-35 Kansas Building

In attendance

HARRY STALLARD, J. D. TURNER

All types of welding and cutting apparatus as follows: Meco welding and cutting apparatus, Jackson products, sight-feed generators, Welderz Frend generators, P. & H. products consisting of a.c. and d.c. welding machines, electrodes, welding positioners. H & M pipe-beveling machines, Huntsman helmets, Shawinigan carbide, Belden cable, Gates hose, Sellstrom goggles, Tillman gloves, Bausch & Lomb welding lens, Peterson flux.

(Check 245 for Further Data on Above)

Indian Drilling Mud Co., Inc.

Britton, Okla.

42 Silver Lane

In attendance

R. M. ROSS, W. L. POTTER, H. L. SMITH, CARL LEDFORD, BOB TILLMAN, M. L. HEASLEY, R. F. PARKER, EUGENE TERRACE, RAY WICKHAM, J. K. WILKINSON, KENNETH KENDRICK, E. B. TICE.

A complete line of mud-testing equipment.

This company specializes on deep-hole drilling. Different chemical treatments are needed in different sections of the country. When a well is started, samples of makeup water are brought into the laboratory and there a complete analysis is run and a chemical treatment worked out for that particular well. Stocks are maintained in 23 different points through the Mid-Continent area.

(Check 246 for Further Data on Above)

Industrial Sales & Engineering Co.

Houston, Tex.

43-44-45-60-61-53 Kansas Building

In attendance

WILLARD R. DAVIS, L. B. HOLT, L. H. GAY, H. L. NORTHRUP, S. E. ULLMANN, L. H. SCHRADE, JOHN HOLY, JOHN DOWLING, H. O. JAMES, H. D. JAMES, RICHARD SEIPT, ROY A. KROPP, J. E. SWEENEY, GEORGE C. McMULLEN, IVAN McMANN.

Associate exhibitors:

Chicago Rawhide Manufacturing Co., Chicago, Ill.: Grease selas and other products.

D. O. James Gear Manufacturing Co., Chicago, Ill.: Pumping units, gears, and gear reducers.

Laminated Shim Co., Glenbrook, Conn.: Lanimum shims, solid shims, and An-cor-lox nuts.

Kropp Forge Co., Chicago, Ill.: Forgings of all kinds.

Tyson Bearing Corp., Massillon, Ohio: Tyson tapered roller bearings.

(Check 247 for Further Data on Above)

Industrial X-Ray Engineers

Tulsa, Okla.

221 Oklahoma Building

In attendance

C. E. BOUCHER, HAROLD HOVLAND, R. R. HUGHES

X-ray machine to inspect pipe-line welding.

This company is providing a positive and economical means of pipe-line weld inspection in a departure from conventional methods. The recently developed machine crawls through the pipe under its own power, stopping at will to X-ray any desired joint. The equipment is not for sale but is operated in the field by experienced personnel who are trained in film interpretation and in correlating information obtained with welding methods.

(Check 248 for Further Data on Above)

Ingersoll-Rand Co.

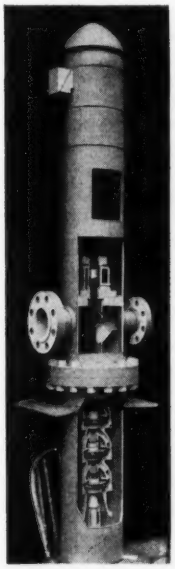
New York, N. Y.

Block U

In attendance

F. J. WETZEL, F. SULTAN, W. H. LEE, J. JANZEN, K. HAR, G. SHAW, H. M. FISKE, W. J. HEINZ, A. HOLLAND, N. HAM, L. H. GEYER, G. BRAHLER.

Gas-engine-driven gas compressor, refinery pumps, pipe-line pumps, turbo blowers, starting units, portable compressors, rock drills, air riveters, impact wrenches, grinders, drills, tampers, hoists, electric impact wrench, utility lightweight jackhammer.



The full-scale cardboard model of a vertical three-stage APHR pump shows all the essential details of the unit. Pumps are of the vertical turbine type with mixed-flow impellers which discharge into guide vanes in the casing. They are made with one, two, three, or more stages, as required, to develop the necessary discharge head. These units are designed for handling refinery liquids and for other applications when low submergence is required. They are particularly suitable for uses where it is difficult to obtain sufficient suction head with the conventional horizontal pump. These pumps are self-venting and have only one stuffing box

(Check 249 for Further Data on Above)

Insley Manufacturing Corp.

Indianapolis, Ind.

Block 9

In attendance

WILLIAM B. ELLIOTT.

Will show ½ cu. yd. shovel, ½ cu. yd. hoe, ½ cu. yd. lorry, and the Hill-Billy.

The K-12 shovel represents the advanced excavator engineering thought of the day. The hoe attachment has many advantages, particularly for pipe-line work and around building construction where application calls for extra power plus close-quarter operation.

Insley Trench Hoe working on a pipe line

The Insley Lorry has a fast road speed, and in rough terrain its 10 speeds forward and 2 speeds in reverse permit peak performance. The Lorry is designed for hoe, clamshell, crane, shovel, or dragline attachments.

The Hill-Billy is essentially a special machine for pipe-line excavation and stringing.

(Check 250 for Further Data on Above)

International Cementers, Inc.

Long Beach, Calif.

Block 104 and 24 Park Lane

In attendance

JOHN D. CHESNUT, JACK S. SMITH, E. P. HOLLYWOOD

PL-7 oil-well cementing truck and auxiliary equipment; other oil-well cementing, pumping, and bulk-cement handling equipment; I.C.I. bridging plugs; I.C.I. cementing plugs.

The new I.C.I. Model A bridging plug is claimed to combine positive action, simplicity, drillability and low cost. The plug is effective as a simple bridging device, as a "heaving plug," or as a bridge builder when used with sand gravel, cement, or plastic. The alloy of aluminum from which this plug is made is very brittle and the small parts are likewise frangible so that drilling out is easily accomplished.

A large number of applications have proved this plug can be easily set wherever desired. It can be run on the operator's sand line or tubing or an equipment furnished as part of the service company's facilities. It may be used with or without leather cups or rubber disks. This effective and economical device is furnished in nominal sizes from 4½ to 10¾ in.; other sizes on special order.

(Check 251 for Further Data on Above)

International Derrick & Equipment Co.

Dallas, Tex.

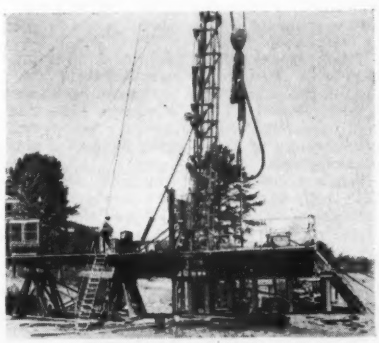
Block 11

In attendance

G. W. WALTON, T. D. COLLINS, C. R. ATHY, F. BARNES, M. J. RAMPP, J. D. McEWEN.

Power rigs, Rambler rig, hydraulic drilling rig, spudder, drilling derricks, Triplex slush pumps, Hydro-Rotary unit, Crown Block, Traveling Block, Swivel, Hydrair hoist, Pumping Units.

A complete drilling rig in operation. The Power rig is 1,350 hp. Capacity, 9-speed, all



Rambler rig on Hy-Lift rams

air-controlled, incorporating advanced design improvements. Slush pump is an all-steel triplex power pump rated for 750 hp. input—the largest-sized pump offered to the drilling industry. Rig, pump, and all accessories are operating under a conventional 136 ft. derrick.

The Rambler rig mounted on Hy-Lift rams is another feature of the display, with torque-converter-driven Hydrair hoist

operating under the hydraulically raised Kwik-Lift mast. This rig is trailer-mounted and by use of special rams is raised, as a unit, to an 8-ft. derrick-floor level.

Also in operation are a completely hydraulic-operated shot-hole rig, a heavy-duty spudder, 600-hp. and 150-hp. power rigs, Hydro-rotary unit, Hydrair hoist, and pumping units.

(Check 252 for Further Data on Above)

International Harvester Co.

Chicago, Ill.

Block 101

In attendance

W. K. PERKINS, NEAL HIGGINS

Diesel-powered crawler tractors with matched equipment, diesel power units, carburetor-type engine power units, trucks with matched equipment.

New products displayed include: crawler tractor Model TD-24, powere by a 6-cylinder, 4-cycle, 180-hp., full diesel engine the most revolutionary design of which is "Planet Power Steering" which permits both gradual turns with power on each track and pivot turns with one track locked and the other under full power, and also permits an instantaneous shift between a high and low range in any gear of the four-speed, synchromesh engine transmission without declutching the engine, providing eight speeds which can be applied in either forward or reverse by means of a separate forward-reverse shift lever.

Diesel power unit Model UD-24, a 6-cylinder, 4-cycle, full diesel engine which delivers 180 hp. at the power takeoff at 1,375 engine r.p.m., advanced cylinder-head design provides valve-in-head accessibility, efficient cooling and a free flow of intake air and exhaust gases, and the twin-plunger fuel-injection pump assures uniform injection and equal power from all cylinders.

Diesel power unit Model UD-16, a 6-cylinder, 4-cycle, full diesel engine which delivers 100 hp. at the power takeoff at 1,800 engine r.p.m.

Truck Model W-6564 OH, equipped with heavy-duty oil-field body including winch, headache rack, and gin poles, with a gross vehicle weight rating of 65,000 lb.

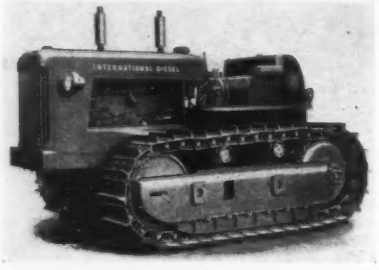
Truck Model KBR-12, equipped with oil-field body including winch, headache rack and gin poles, with a gross weight rating range of 28,500-35,100 lb. and a 179-in. wheelbase.

Truck Model KB-8, equipped with oil-well servicing unit, this model has a gross weight rating range of 20,000-26,000 lb. and a 179-in. wheelbase.

Truck Model KBS-8, equipped with oil-field body including winch, headache rack and gin poles, and has a two-speed rear axle.

Truck Model KBS-6, equipped with core drill for oil exploration, with a gross weight rating range of 14,500-18,000 lb. and a 176-in wheelbase.

Truck Model KB-3, equipped with oil-field body including winch, headache rack and gin poles, with a gross vehicle weight rating of 6,650 lb. and a 130-in. wheelbase.



TD-24 crawler tractor

In addition International is showing more of its equipment at three displays near East Second Street and Frankfort Avenue, in downtown Tulsa.

(Check 253 for Further Data on Above)

International Nickel Co., Inc.

New York, N. Y.

64-65 Texas Building

In attendance

H. S. LEWIS, B. B. MORTON, F. R. BAILEY, A. C. ZIMA, A. J. RICE

A background display illustrates flow sheet of oil industry, showing uses of nickel alloys.

(Check 254 for Further Data on Above)

Iverson Supply Co.

Tulsa, Okla.

88-89-90 Kansas Building

In attendance

S. J. IVERSON, H. M. LUNDQUIST, C. E. ROBERTSON, A. M. IVERSON, H. F. OLIVER, WAYNE WALLACE, S. B. IVERSON, R. B. YANAWAY, M. A. ASHWORTH.

Featured items of this exhibit are Pittsburgh Valve & Fittings Co.'s new Hydro-Lube plug valve, and Goodall Rubber Co.'s new Flexo rotary hose. Both of these items are the latest development in their fields and will be interesting to those attending the show.

(Check 255 for Further Data on Above)

Jarecki Manufacturing Co.

Houston, Tex.

87-88 Texas Building

In attendance

KARL G. WAGNER, H. A. BRIGHTWELL, F. T. SHAFFER

(Check 256 for Further Data on Above)

Jensen Bros. Manufacturing Co.

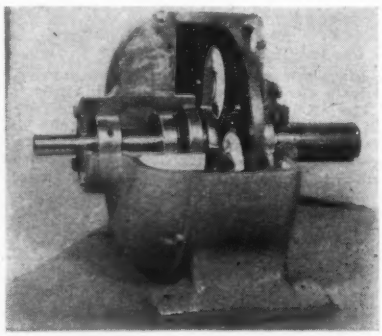
Coffeyville, Kans.

21 Kansas Building

In attendance

K. R. JENSEN, W. G. JENSEN, L. G. FENN, BILL PEYCKE

Oil and water-well pumping equipment, including the smallest unit manufactured and Geartork speed reducers.



One of the popular Jensen line

(Check 257 for Further Data on Above)

Jerguson Gage & Valve Co.

Somerville, Mass.

86 Scientific and Technical Building

In attendance

W. A. GRIFFIN, J. C. FORD

Trulevel distant-reading boiler-water-level gage, reflex and transparent gages, gage valves.

(Check 258 for Further Data on Above)

Johns-Manville Sales Corp.

New York, N. Y.

44-45-46-47 Oklahoma Building

In attendance

E. J. LIGGETT

Insulations, refractories, packings, gaskets, friction materials, asbestos pipe-line felts, corrugated Transite roofing and siding, Transite asbestos-cement pipe, Marinite for fireproofing structural steel, crude asbestos.

The exhibit has several features of particular interest. One is a colorful display on asbestos, the basic material in many of J.-M. products used in the oil field. Another feature is a presentation of a new fire-retardant refrigeration insulation, especially interesting to the refining industry. There is an unusual animation in which Clipper Seal—new type oil seal— is subjected to continuous operation to show its lubricant-retaining qualities. Grouped around these features are large-sized product displays of other materials familiar to and associated with the petroleum industry.

(Check 259 for Further Data on Above)

Oceco Division, Johnston & Jennings Co.

Cleveland, Ohio

82-129 Oklahoma Building

In attendance

C. J. VAN LANDEGHEM
W. H. McGUNAGLE

Tank fittings, including conservation vent valves, flame arrestors, weatherhoods, tank winches, water draw-off valves, internal tank valves, gage hatches, swing joints, manheads, gages, cable sheave brackets.

(Check 260 for Further Data on Above)

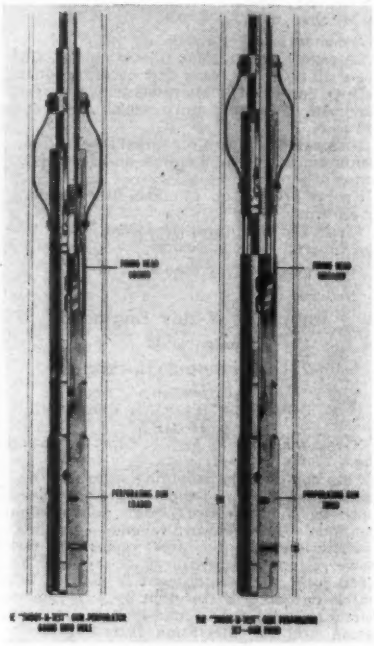
M. O. Johnston Oil Field Service Corp.

Los Angeles, Calif.

Block 104-F

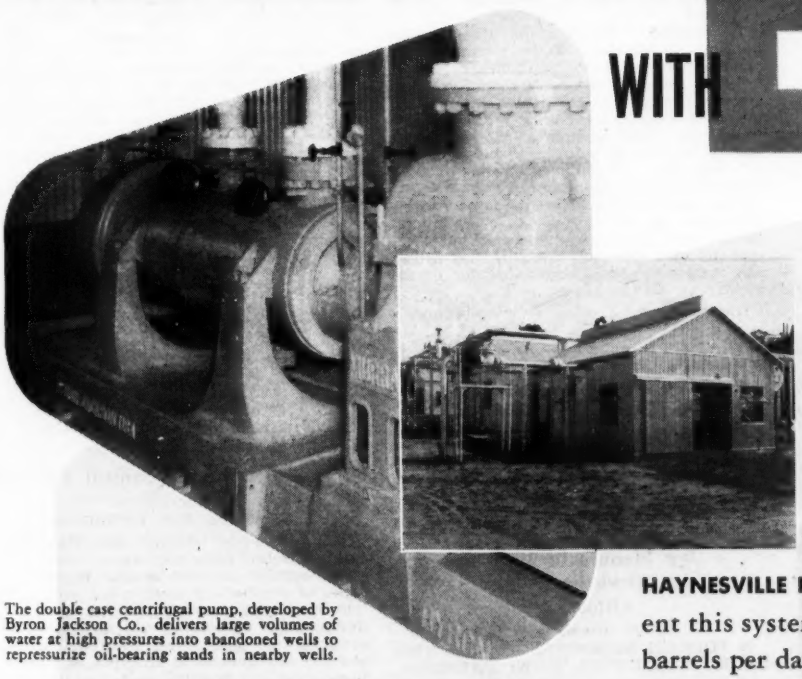
In attendance

M. O. JOHNSTON, W. F. BETTIS, WILLIAM TAYLOR, FRANK O'NEILL, JOHN FLANAGAN.



M. O. Johnston "Shoot-N-Test" gun perforator

trade Water for Oil... WITH BJ PUMPS



The double case centrifugal pump, developed by Byron Jackson Co., delivers large volumes of water at high pressures into abandoned wells to repressurize oil-bearing sands in nearby wells.

Up to 25% more production by repressurizing oil-bearing sands

THE BRADFORD PROCEDURE. Byron Jackson pumps, first installed in 1934, repressurize oil-bearing sands to restore production to wells where natural pressure is exhausted. High quality paraffin base crude is still being produced from the Bradford Pool by this method.

REPORT OF PETROLEUM ENGINEERS & GEOLOGISTS –That in the Bradford Field the proportion of the total original deposit recoverable by successive methods of production is approximately as follows:

1. Recoverable by free flow under natural pressure	20%
2. Recoverable by pumping after natural pressure has disappeared	15%
3. Additional amount recoverable by repressurization	25%
4. Not recoverable by any known economical production means	40%
	100%

Byron Jackson Co.

Since 1872

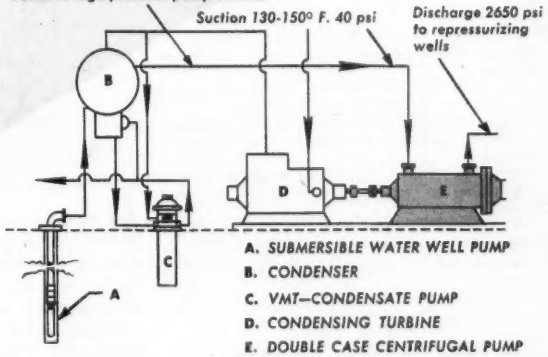
LOS ANGELES 54, CALIFORNIA

Offices in Principal Cities

HAYNESVILLE PRODUCTION PICTURE. At present this system is delivering about 20,000 barrels per day (580 gpm) of water at 2,650 psi. This one system repressurizes eighteen wells. Oil and gas are being displaced in proportion to the quantity of injected water.

BYRON JACKSON DOUBLE CASE DOUBLE VOLUTE CENTRIFUGAL PUMPS eliminate heavy bolting and tricky gaskets, make inspections of all moving pump parts a simple task, and assure continuity of service and long, safe pump operating life.

A complete description of this pump is available in Bulletin No. 46-4500. Please write for your copy today.



Flow diagram of repressurization system placed in operation at Haynesville, Louisiana, on June 23, 1947.

Johnston formation tester, depth pressure recorders, Johnston tool-joint refacer, "Shoot-N-Test" gun perforator, new hydraulic equipment which represents first basic departure from conventional practice.

(Check 261 for Further Data on Above)

Jones & Laughlin Supply Co.

Tulsa, Okla.

Block 1

In attendance

RAINEY ELLIOTT, H. L. WILKINS, ROBERT McCOY, JR.

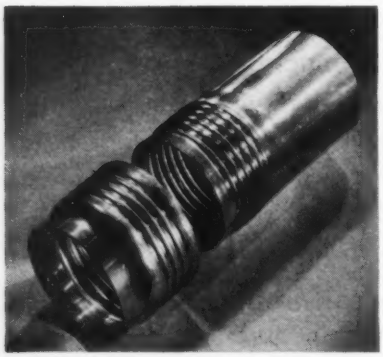
The original oil painting "Oil Transport—Before Steel" by Orison MacPherson, depicting pond freshets in action during the early days of the oil industry, is a feature of this exhibit. The lines of oil-industry equipment distributed by this company are displayed separately, each with its own representative in charge, as follows:

Axelson Mfg. Co.—J. R. Walker, deep-well pumps and sucker rods.

Cabot Shops, Inc.—R. A. Baker, 3 hp. to 55 hp. pumping units.

Century Electric Co.—Fred Powers, splash-proof electric motors.

Jones & Laughlin Steel Corp.—A. P. Holloway, tubular goods for oil country. D. J. Henecker, wire lines for oil country.



Specially designed 3-in. o.d. electricweld tubing in lengths from 10 to 20 ft. with integral joint construction, for use by seismograph crews. This casing has advantages in the elimination of independent couplings, greater ease in handling, improved sealing properties, greater strength resulting in high recovery, and constant ID which removes the possibility of sticking or hanging charges

. J & L Steel Barrel Co.—T. E. Craford, steel drums.

Jones & Laughlin Supply Co.—F. C. Bryan, pipe-line pump units; circulating treating unit.

Midwest Piping & Supply Co., Inc.—Eric Kerbey, standard and extra-heavy welding fittings.

Republic Rubber Co.—N. M. Grove, oil-country belting and hose.

Smith Welding Equipment Corp.—Walter L. Porter, Lifetime welding torches and gas generators.

Wheland Co.—J. C. Blake, drilling crown and traveling blocks, power slush pumps, rotaries, swivels.

Whitlock Cordage Co.—L. A. Shally, pure manila derrick line, bull ropes, cat lines.

(Check 262 for Further Data on Above)

S. M. Jones Co.

Toledo, Ohio

15-16 Oklahoma Building

In attendance

M. B. JONES, D. R. DALE, L. J. PUNDT, HOLT McWORKMAN, W. H. RITTER-BUSCH, JR.; ALAN A. BINKERD, O. L. SHOOK, GEORGE H. ROSS, W. C. MEEKS, W. M. WARE, W. E. BARFIELD, GEORGE M. BLAINE, W. E. HARVEY, C. W. TURNER.

The exhibit features a miniature pumping unit in operation from which is suspended items of Jones equipment.

As an integral part of the display is an electrical dynamometer which exemplifies the field engineering service which is offered by this company to producers throughout the oil industry in helping them to study and solve the problems encountered in sucker-rod pumping.

Also on display are specimens of sucker-rod joints in the various stages of manufacture and in the finished condition. Split sections of other rods showing the forged and machined characteristics of this equipment may also be seen.

(Check 263 for Further Data on Above)

Jones, Shelburne & Guffey, Inc.

Oklahoma City, Okla.

19 Park Lane

In attendance

K. C. SHELBURNE

Photographs of J-S-G "Spad" and "Super Spad" rotary drilling rigs.

(Check 264 for Further Data on Above)

Joy Manufacturing Co.

Pittsburgh, Pa.

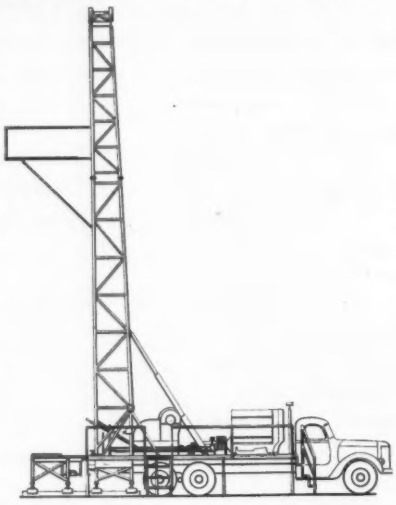
Block 7

In attendance

R. FORREST ROSENBURGER, O. J. NESLAGE, J. A. NOYES, F. W. HARRISON, and two Spanish-speaking representatives.

No. 300 and No. 150 motorized drill rigs, portable air compressors, rock drills, hoists, sheaves, derrick string-a-lite, portable blowers, Series 1000 Axivane fan, oil-field accessories (drill pipe, core barrels, etc.)

On display are two completely new motorized drill rigs designed for exploratory drilling, core drilling, electrical logging, seismograph, and slim-hole production, embodying advanced improvements in drill-rig construction and performance.



One of the two new rigs displayed is this Joy No. 300 motorized drill rig, designed for deep core testing and slim-hold production drilling to 4,000 ft. The No. 300 is a heavy-duty, portable standard machine with conventional A.P.I. tapered rotary table and heavy-duty draw works with water-cooled brakes. This rig is equipped with a large-capacity sand reel and a derrick of sufficient height to make rat-hole connection

The exhibit also includes equipment of interest to pipe-line contractors and the refining industry, including rock drills, spaders, wagon drills, trench diggers, portable air compressors, hoists and winches, sheaves, portable blowers, and the new Series 1000 Axivane fans. A line of oil-field accessories—drill pipe, core barrels, drag bits, string-a-lite, etc.—is also exhibited.

(Check 265 for Further Data on Above)

Joyce-Cridland Co.

Dayton, Ohio

49-50 Texas Building

In attendance

C. H. BROWN, DAVE STOCKMAN, DON SWITZER

Joyce Materialifts, Magne-Guard lifts, emergency jacks, track jacks, ball-bearing screw jacks.

(Check 266 for Further Data on Above)

Justrite Manufacturing Co.

Chicago, Ill.

17 Scientific and Technical Building

In attendance

F. O. WHITE, J. N. GRIMSHAW

Safety electric lanterns and flashlights, safety gasoline cans, oily waste cans.

The exhibit includes several models and types of dry-battery electric lanterns, electric headlights, and flashlights especially designed for oil-country use at drilling operations, on pipe lines, transport trucks, and for emergencies at all types of installations. They are designed to be readily portable and are safe in the presence of the more common hazardous vapors. They carry the approvals of the Underwriter's Laboratories and the U. S. Bureau of Mines.

Also in the exhibit are the approved safety gasoline cans, for flammable liquids, and the new flexible hose attachment which is designed as an accessory for safety cans to permit filling fuel tanks and other "small opening" containers more conveniently and safely.

(Check 267 for Further Data on Above)

Ben F. Kelley Co.

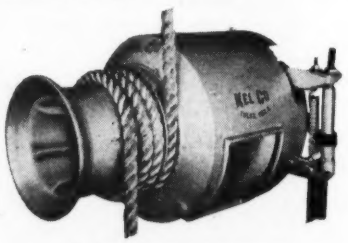
Tulsa, Okla.

3 Texas Drive

In attendance

BEN F. KELLEY, W. L. KELLEY

Spinning line catheads, breakout catheads, spinning line catheads for service units, breakout catheads for service units, polish-rod safety clamp.



Kelley Model 16 cathead

(Check 268 for Further Data on Above)

Kem-I-Kal Engineering Laboratories, Inc.

Centralia, Ill.

32 Park Lane

In attendance

WILLIS B. PORTER, FAY COLLINSWORTH, CLARENCE L. FITTY

Silver chrome aluminum paint; outside

white; Starlite enamel, gray, red, black, green, yellow, orange, blue; oil-well cleaning compound; paraffin solvents—a corrosion-resisting chemical, trade name "Phostone," used to stop corrosion in oil wells and industry.

The Kem-I-Kal oil and gas-well cleaning process utilizes a scientifically compounded formula of chemicals and chemical-dissolving metals, producing two distinct reactions which operate at the same time. One action is a corrosive, or disintegrating action; the other is an effervescent action produced by hydrogen gas released during the chemical reaction. This combination of a chemical-dissolving-action and a violent, turbulent motion set up by the released hydrogen gas, permits the cleaning, washing, disintegrating effectiveness of the chemical fluid to reach out into the remote seams and crevices of the producing formation, at the desired depth location, in such manner that the face of the producing section is cleared of clogging or sealing refuse otherwise not removable by the action of the clean-out tools.

(Check 269 for Further Data on Above)

Keuffel & Esser Co.

Hoboken, N. J.

213 Oklahoma Building

In attendance
W. H. BOLTER, H. E. BOWMAN, A. D. TASKER

Drafting, reproduction, surveying equipment and materials, slide rules, measuring tapes.

(Check 270 for Further Data on Above)

Kerotest Manufacturing Co.

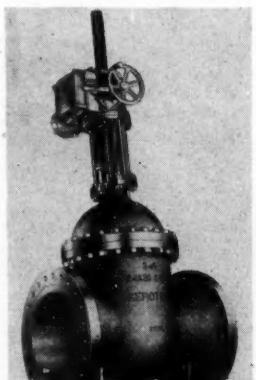
Pittsburgh, Pa.

89-90-121-122 Oklahoma Building

In attendance
GEORGE R. ALLEN, J. D. ISAACKS, W. G. SWANEY, S. J. ROUSH, D. J. MOONEY, GENE BEST, WALTER COX, J. P. FRENCH, GLENN DICKINSON, J. A. MORRIS, CLYDE ALEXANDER, R. W. MUELLER, JR.; E. T. ADAMS.

Pipe-line gate valves, lubricated flow-line valves, stainless-steel valves, Kerosphere ball valve.

Also on display are drilling valves, chokes, gate, globe, angle, and swing check valves for refinery service, needle valves,



Pipe-line gate valve

throttle valves, christmas-tree, and L.P.G. equipment.

The full-flow pipe-line gate valves displayed are double disk or solid wedge construction, single or double handwheel, geared or motor operated, and in sizes from 2 to 24 in.

Especially featured is the new Kerosphere ball valve developed to overcome many of the objections found in conventional valves of the gate, globe, and pub types, and said to need no lubrication, require only a quarter turn in operating, and assure ease of operation at all times regardless of pressure.

(Check 271 for Further Data on Above)

Walter Kidde & Co.

Belleville, N. J.

5-6 Scientific and Technical Building

Exhibiting with Steve C. Maples & Co.

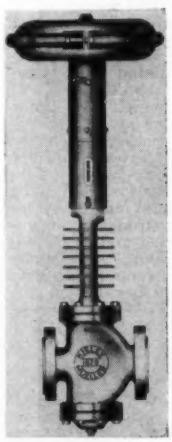
(Check 272 for Further Data on Above)

Kieley & Mueller, Inc.

North Bergen, N. J.

81-82 Kansas Building

In attendance
JOSEPH O'CONNOR, CLIFFORD B. IVES, ROBERT J. DONNELLY



Kontrol-motor diaphragm valves, Kontrol-master pressure pilots, Kontrol-master liquid-level pilot, and pressure regulating valves.

One of the Kieley & Mueller Kontrol-motor diaphragm valves

(Check 273 for Further Data on Above)

King Oil Tools

Houston, Tex.

25 Silver Lane

In attendance
W. E. KING

Medium, light, and extra-light drilling swivels; circulating heads for wire-line coring, etc.; wire-line strippers (line wipers) for coring; wire-line strippers (oil savers) for swabbing; dynamite loading tools for seismograph crews.

(Check 274 for Further Data on Above)

Myron Kinley Co.

Houston, Tex.

5 Silver Lane

In attendance
M. M. KINLEY, JACK KINLEY

Tubing caliper, releasing rope socket, wire-line releasing tool.

(Check 275 for Further Data on Above)

Kobe, Inc.

Huntington Park, Calif.

Block 11

Operating installation of Kobe free pumping with full-size equipment; working schematic model; sectioned free-pump equipment elements; 3-C triplex power unit—gas engine drive; 2-B Triplex power unit—gas-engine drive; 2-B electric-drive Triplex pump; well-control manifold.

The Kobe exhibit features an operating installation of the new Kobe free pump system. An engineer in attendance demonstrates the running, surfacing, and operation of the Kobe free pump. An explanatory operating schematic model illustrating the principles of operation is included in the exhibit. Also included in the display are sectioned elements of the equipment together with several types of surface power units and well controls.

(Check 276 for Further Data on Above)

Koebel Diamond Tool Co.

Detroit, Mich.

260 Oklahoma Building

In attendance
CHARLES J. KOEBEL, ROBERT E. TODD

Koebelite diamond-core bits.

Koebelite core bits containing separate inserts provide diamond cutting points spaced in a preconceived field-proven pattern which provides maximum cutting speeds. The inserts are placed into a heat-treated alloy steel which has unusual resistance to wear in abrasive rock.

Koebelite mechanical set insert core bit is a new development for the oil industry. This bit has all the features of the brazed-

Mechanical set inset core bit showing sections removed

type bit, but in addition provides a flexibility unparalleled in the industry. The diamond inserts can be removed and replaced on the job with no loss of time. The same steel body holding the inserts can be used over and over, resulting in a reduction of inventory.

(Check 277 for Further Data on Above)

Koppers Co., Inc.

Baltimore, Md.

74-75 Texas Building

In attendance
JOHN A. WORTHINGTON, MICHAEL C. DOOLEY

American hammered piston rings for oil-field and industrial application.

Four divisions of Koppers Co., Inc., have exhibits in three booths. The piston ring division has a large display of industrial piston rings of the type widely used in the petroleum industry. The shops division is exhibiting Fast's self-aligning couplings. Pressure-treated wood for marine piling and as structural timber are exhibited by the wood preserving division. The exhibit of the tar products division shows Bituplastic, the protective coating that will not "alligator."

(Check 278 for Further Data on Above)

XUM

I.P.E. DIRECTORY

Korkele Production Engineering Co.

Wichita Falls, Tex.

39 Silver Lane

In attendance

KORK KELLEY, MRS. KORK KELLEY, PATRICIA KELLEY WHITE, KATHRYN KELLEY, ROBERT KORK KELLEY, ALFRED L. WHITE.

Korkele submerged oil and gas separator, adjustable-stroke control for oil wells, new-type close-clearance oil-well pump.

The Korkele submerged oil and gas separator is designed to go below the tubing string and separate gas from oil before it enters the pump, which is said to increase production, lower high gas-oil ratios and cure other ills of oil wells such as gas-locking, cut oil, low gravity, flashed and burned crude in flares, paraffin, bad tank-bottoms, hot stuffing-boxes and sand troubles.

The Korkele adjustable stroke-control for oil wells is placed in the rod near the jack. It is hand operated and any length of stroke can be obtained without shutting the well down to change bearings and bolts. Capacities as low as ½ bbl. a day can be handled regardless of the size of the pump. It can be used as a multiplier to increase the length of stroke where large amounts of oil and water are to be handled. The purpose of this tool is to keep the well on 24 hours and pump out the exact amount of oil and water as it moves into the drill hole.

(Check 279 for Further Data on Above)

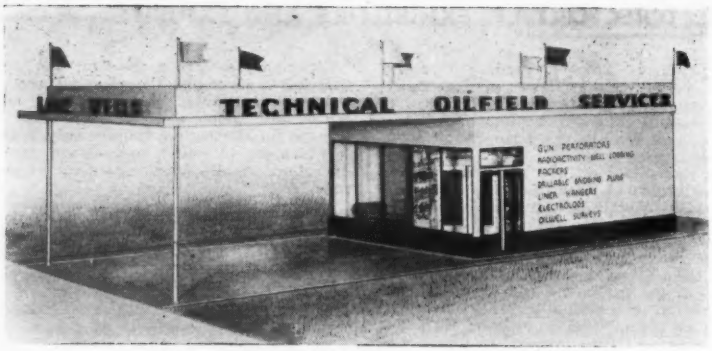
Lane-Wells Co.

Houston—Los Angeles—Oklahoma City

Block V

In attendance

JAMES D. HUGHES, JOHN J. NEALE, R. B. DOWNING, C. F. LUDWIG, CLAUDE KIRKMAN, J. W. McPHEE, J. MURRAY WALKER.



Lane-Wells Co. display building

Gun perforating, Type A, D1, and Koneshot guns; radioactivity well-logging; Multi-Shoot test tool; Drillable bridging plugs, Types D and W; packers; field service units.

On the apron of the carport in front of a modern-design building are two of the newest service trucks, incorporating new developments in gun-perforating and radioactivity well-logging service. Inside decorations consist of photomurals of various Lane-Wells jobs, and a display of packers, with a slide-film story of packers, their operation, and applications. Next are the new Lane-Wells formation-testing tools. Covering most of the rear wall is an animated display demonstrating the operation of Lane-Wells radioactivity well-logging instruments. Bridging plugs in set and unset positions are shown next, with a projector screen giving the story of their many uses. There is a display of gun perforators, including the new 128-shot D-1 gun and the much-discussed "Koneshot" gun, and a continuous story in slide-film gives the salient information on Lane-Wells gun-perforating service and its applications to different down-hole conditions. A further feature certain to prove popular is a liberal number of comfortable lounging chairs where visitors to the show are welcome to rest and relax.

(Check 280 for Further Data on Above)

Ladish Co.

Cudahy, Wis.

7-8-9 Kansas Building

In attendance

J. F. HACKER, R. M. FOLTZ, W. F. GARDNER, W. O. KUPPER, H. L. PEHRSON, J. D. BEST, G. E. MAHONEY, R. C. FOLTZ, M. S. KACHIGAN.

Representative items of the complete line of Ladish controlled-quality seamless welding fittings, forged steel screwed and socket welding fittings, and forged steel flanges in carbon, stainless and alloy steels are on display, and a number of drop forgings for use in the petroleum industry.

One of the new developments on display is the seamless reducing elbow, which eliminates the necessity of using an elbow and a reducer in installations where a 90° change of direction is combined with a change in pipe size.

Also on display is a 20-in. taper-designed full branch outlet tee with smaller cut-away samples showing the scientific distribution of metal that improves flow efficiency, provides a reinforced long crotch radius and maximum strength.

The seamless reducing ell, a new Ladish development

(Check 281 for Further Data on Above)

Laminated Shim Co.

Glenbrook, Conn.

43 Kansas Building

Exhibiting with Industrial Sales & Engineering Co.

(Check 282 for Further Data on Above)

NEW WAY
TO MOVE BIG DERRICKS
QUICKLY WITHOUT DISMANTLING

Near Odessa, Texas this derrick, weighing over 125 tons, was moved intact on Athey Forged-Trak Wheels—without disturbing the crown-block, traveling-block or draw works. The move was made at a speed of more than one mile per hour and the drilling contractor was able to start drilling three hours after the move was made.

In spite of the load and loose sand, the four pairs of Athey Forged-Trak Wheels supported the derrick on top of the sand, making it easy for the tractor to pull.

In Texas, derrick moving by this method is becoming the accepted practice, with moves up to 8 miles done in 2 days overall time compared with 10 days usually required by former methods.

SEND TODAY FOR FULL FACTS

Athey Products Corporation Dept. OGJ5
5631 W. 65th St.,
Chicago 38, Illinois

Please send complete details on Athey Forged-Trak Wheels

Name_____

Address_____

Town & State_____

Athey

ATHEY PRODUCTS CORPORATION
CHICAGO 38, ILLINOIS

I.P.E. DIRECTORY

Max E. Landry, Inc.

Tulsa, Okla.

Block G

In attendance

MAX E. LANDRY, ALFRED B. KERN, R. B. COMBS, W. A. BARR, J. R. FAGAN, B. H. QUACKENBUSH, M. DEBRY.

Bruce-Macbeth engine generating plant; Foote Brothers gears and gear reducers; Simplex voltage regulators.

(Check 283 for Further Data on Above)

Larkin Packer Co., Inc.

St. Louis, Mo.

51-52 Oklahoma Building

In attendance

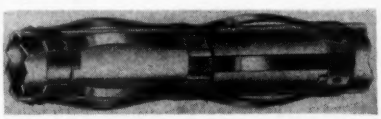
W. H. LARKIN, J. J. LARKIN, JR., T. E. ALEXANDER

Float equipment, Cementrol equipment, casing centralizers, tubing heads, casing heads, swage nipples, and bull plugs.

A completely new design casing centralizer which provides 10-point contact and greater peripheral bearing on the wall of the hole is displayed.

This new centralizer is constructed with twice the number of staves as conventional types of centralizers. The 10 staves work as a unit, not individually, to provide a centering strength four times as great as a long-staved centralizer similarly constructed. Due to the shorter arc of the stave, each stave has twice the strength as would the old long-stave type. It has potentially 20 times the centering strength of a long-staved centralizer that work as individual units, according to the manufacturer.

In addition to the new centralizer, the company displays its complete line of "Perfect Circle Cementing" geyser float and guide shoes, float collars, regular float and guide shoes, Cementrol cementing equipment, forged-steel tubing heads, tubing hangers, casing heads, spiders and slips, casing and anchor clamps, forged steel swage nipples and bull plugs, packers, and sand pumps.



Larkin casing centralizer

(Check 284 for Further Data on Above)

Thomas Laughlin Co.

Portland, Me.

8 Park Lane

In attendance

M. H. S. AFFLECK, LEWIS M. GARDNER, D. W. HUFF

Mounted on display boards and loose on tables are samples of the wire rope and chain accessories manufactured by this company. Featured are exclusive items such as the safety "Fist Grip" clips, Laughlin clevis hoist hooks, clevis grab hooks, drop forged weldless rings and sling links, genuine "Missing Links" for chain repair, pear-shaped "Missing Links" for connecting fittings to chain, safety hoist hooks, eye bolts, shackles, swivels and turnbuckles. Another item of interest is a large 2¾ x 24-in. galvanized jaw and eye turnbuckle weighing 200 lb. which is used in the rigging of tankers and cargo ships.

(Check 285 for Further Data on Above)

Lauson Co.

New Holstein, Wis.

20 Park Lane

In attendance

E. L. FISHER, J. F. WOODFORD.

Lauson H-2 oil test engine. Several Lau-

YOU'LL FIND ACME

— Trustworthy — Since 1900 —

Among the "Old Timers" at the Tulsa Oil Show

Drop in and Let's Reminisce and Look Forward Together

May 15-22

Booth No. 14 on Park Lane Near — "Old Timers" Hd. Qtrs.

Use Acme Cable Tools

TRUSTWORTHY SINCE 1900

Fig. 208 Acme Side-Slot Comb. Socket

Socket Slips

WANTED! TOUGH FISHING JOBS

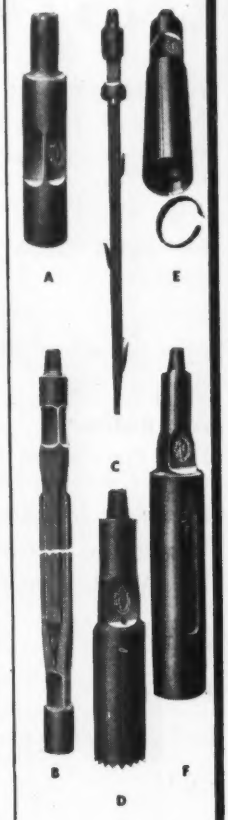
For 48-years, Acme's Trustworthy Tools have helped Drillers recover — more quickly — stuck tools on, even, toughest fishing jobs. Our Combination Sockets are especially adept at this arduous toil.

Their distinctive design and precisioned construction embody the accumulated, life-time experiences of Acme's own fishermen . . . Specialists whose services are ever in demand when drilling tools are "hopelessly" stuck.

From billet to finished Socket, Acme's famous "quality-comes-first" policy is rigidly enforced: Premium-grade steels — to our own analyses specifications — for ruggedness exceeding each tool's field requirements . . . Forgings EXACTLY heat-treated, by electro-automatically controlled process . . . Craftsmanship to minutest engineered detail.

Acme Combination Sockets have that uniform, built-in character so essential for hard jarring . . . Correct spacing, depth, angle and hardness of slip-wickers — also unique design of slips and slip-seat taper — all unite for maximum up-jarring, with minimum bursting stress.

More of EVERYTHING You Need in an Acme String . . .



A—Babcock Rope Socket
B—Fishing Jar
C—Center Spear
D—Drill Mill
E—Ring Collar Socket
F—Full Circle Slip Socket

See Acme's new Catalog insert in Composite Catalog (Vol. 1) — or write us TODAY for full information on any Cable Tool needs.

See panel (right) for other Acme Fishing Tools—for that EXTRA service you prefer.

Acme Fishing Tool Co.

PARKERSBURG, W. VA.

Export Office: 19 Rector St., New York 6, N. Y.

ACME DRILLING & FISHING TOOLS Since 1900

son industrial single-cylinder, four-cycle engines.

(Check 286 for Further Data on Above)

Leeds & Northrup Co.
Philadelphia, Pa.
29-30 Scientific and Technical Building

In attendance
A. E. TARR, G. C. GRAF, M. E. GRIFFITH, E. B. ESTABROOK, R. E. HANSEN, D. S. LANSDON, J. W. STOCKARD, J. L. SERRILL, E. R. FISKE, JR.

New L.&N. pneumatic controllers, both round-chart and strip-chart models; multiple-point temperature recorders, Micromax and Speedomax; Speedomax high-speed multiple-point temperature indicator; portable glass-electrode pH indicator; portable temperature indicator.

The first three items are demonstrated in actual operation.

Visitors see, by means of a working demonstration, how the new L.&N. pneumatic control can improve process operation as compared to the usual type of control.

Set up to control a model heat exchanger, the controller's operation depicts visually most of the conditions which exist in actual refinery temperature-control applications. By turning a knob, visitors can cause a sudden upset which, in a refinery unit, would throw the product off specified quality. Then they can watch how the controller brings temperature back to the control point, without cycling or overshoot. To compare the performance of complete L.&N. control with that of the usual type, the instrument can be set to control by either method. Visitors see how, regardless of the type of upset, complete L.&N. control increases the productive time of the process by reducing both the size and duration of temperature changes.

Also exhibited in actual operation will be a round-chart Speedomax pneumatic controller, with an unusually readable indicating dial; multiple-point temperature recorders, Speedomax for extra-fast recording and Micromax for all other applications; and a Speedomax high-speed indicator for logging a large number of temperatures in rapid succession. Besides these, there are L.&N. portable indicators, for pH and temperature checking.

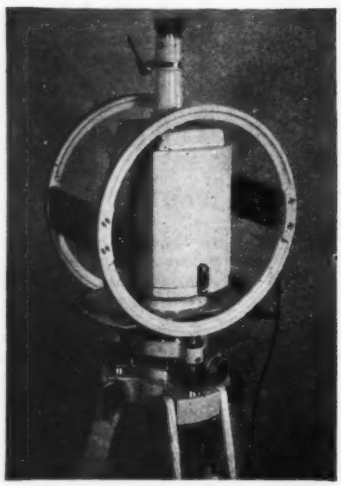
(Check 287 for Further Data on Above)

RESEARCH INSTRUMENTS

for Geophysics
Magnetic Surveying Instruments
Vertical and Horizontal Magnetometers for visual observation and recording

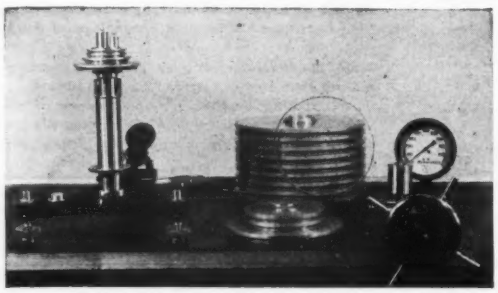
for Production
Core Analysis
Bottom Hole Sampling
Oil and Gas Analysis
Reservoir Engineering

for Refining
High Pressure and High Temperature Laboratory Equipment
Catalytic Reactor Systems
Proportioning Pumps
Dead Weight Gauges



Horizontal Magnetometer

For further information call or write to—



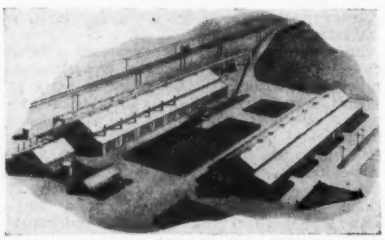
Dead Weight Gauge

RUSKA INSTRUMENT CORPORATION
4607 Montrose Blvd. **Houston 6, Texas**

LeBus Rotary Tool Works, Inc.
Longview, Tex.
8 Texas Drive

In attendance
F. L. LeBUS, SR.; E. J. CALK, F. L. LeBUS, JR.; J. J. COX.

LeBus outside drill pipe cutters, full-hole controlled-action knuckle joint, washover overshot, circulating and releasing spears, load binders (boomers), groove bar, commercial drop forgings, pull-back springs.



Power plant, drop forge shop and machine shop of The F. L. LeBus Co.

(Check 288 for Further Data on Above)

Lincoln Electric Co.
Cleveland, Ohio
201-202-249-250 Oklahoma Building

In attendance
A. F. DAVIS, J. R. MORRILL, R. L. LOONEY, E. B. REEVES.

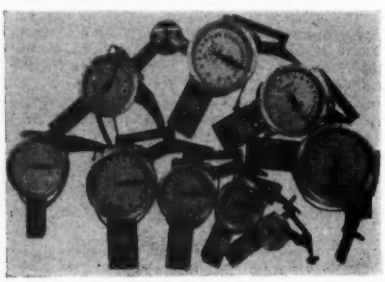
Manual Lincolnweld Process; new line of a.c. equipment; new engine-driven welders, new electrodes for use in petroleum field.

(Check 289 for Further Data on Above)

Line Scale Co., Inc.
Oklahoma City, Okla.
205-206 Oklahoma Building

In attendance
J. C. CONRAD, P. Z. CONRAD, MRS. P. Z. CONRAD, W. E. FARR

Line scales, recorders, stratagraph recorders, pressure gage, polio exerciser, electric crane scales.

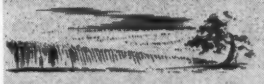


Group of Line Scale Co.'s gages used in the petroleum industry

(Check 290 for Further Data on Above)

VALUABLE INFORMATION on Employee Housing

From Wheat Field



to Modern Village

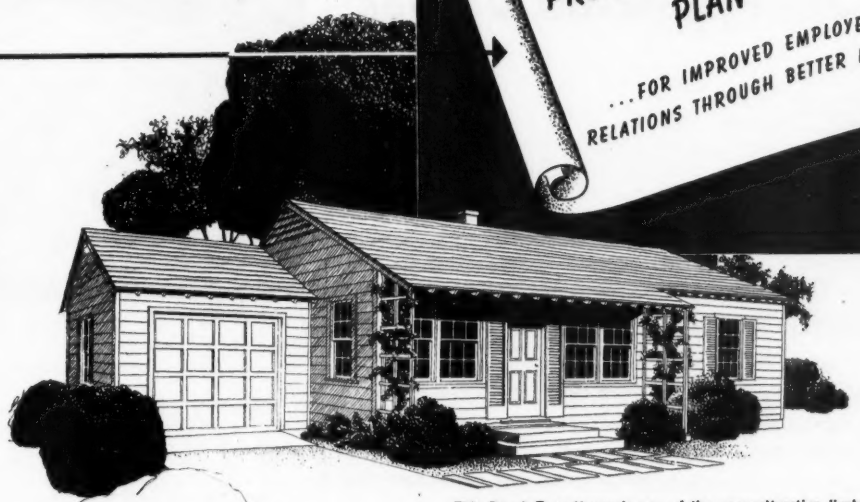
in less than 6 Months

with Crawford-Built Homes

• • • folder tells how to simply, quickly erect a group of employee houses . . . or build a complete employee village . . . as your needs require.

CRAWFORD PROJECT DEVELOPMENT PLAN

. . . FOR IMPROVED EMPLOYEE RELATIONS THROUGH BETTER LIVING



This Ranch Type House is one of the many attractive, livable, economical Crawford Houses available for Project Development

● The CRAWFORD PROJECT DEVELOPMENT PLAN includes these services—site selection, plot planning, architectural service, site improvement, house erection, installation of utilities, financing and landscaping. Take all or part, to fit your needs. A wide variety of houses—in price and style—is available, including multiple-purpose (utility or bunk house) buildings.

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AFFILIATE OF M. W. TURNER COMPANY

Eleven West Sixth Street • Tulsa 3, Oklahoma

Authorized CRAWFORD Dealer

Crawford BUILDINGS World Markets

I.P.E. DIRECTORY

Le Roi Co.

Milwaukee, Wis.

Block R

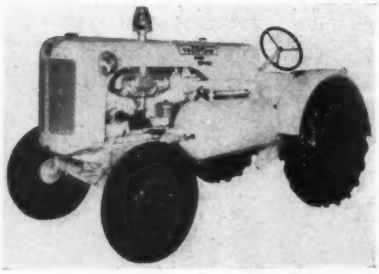
In attendance

L. G. VALDES, ROBERT M. DARR

A 12-cylinder L-3460 drilling engine; 8-cylinder H-540 drilling engine; 1-cylinder A-288 pumping engine; 10-kw., a.c. generator set; operating cutaway D140 engine; Tractair; service parts display.

The company is introducing the new L-3460, a V-12 engine specially designed for heavy-duty, oil-field service, with a maximum power range up to 600 hp. Applications are in heavy rotary-drilling rigs, mud-pump drives, pipe-line pumping, and generator service. Fuel system is adaptable to natural gas, liquid butane, and gasoline.

The H-540 engine, a new V-8 with a maximum horsepower rating of 135 at 1,800 r.p.m., incorporates design features such as removable, wet-type cylinder sleeves, extra-heavy counterweighted crankshaft with five main bearings, water-cooled manifolds, full-pressure lubrication, cam-ground aluminum pistons, and push-button starting.



View of Le Roi's Tractair

The A-288 specially designed oil-well pumping engine is one of the outstanding features of the exhibit. This one-cylinder engine with 7¼-in. bore and 7-in. stroke, develops up to 26.3 hp. at 720 r.p.m., completely sealed to run in all kinds of weather, it operates on natural gas or butane.

(Check 291 for Further Data on Above)

A. Leschen & Sons Rope Co.

St. Louis, Mo.

31-32 Texas Building

In attendance

L. E. DRESSLER, C. H. WATSON, J. C. HOFFMAN, C. M. HOLLAND, L. H. GAULT.

Wire rope for all oil-field purposes, including "HERCULES" (Red-Strand) drilling lines, tubing lines, sand lines and winch lines in both preformed and nonpreformed types; wire-rope slings.

Photo of the flat-laced wire-rope sling just developed by Leschen

(Check 292 for Further Data on Above)

Liggett Supply & Equipment Co.

Tulsa, Okla.

31 Silver Lane

In attendance

CHARLES E. DEXTER, JR.; LEONARD DEXTER, W. H. BRIXEY, NORMAN J. SPARKLIN, G. RAY DOWNEN, C. W. POLUMBUS.

Trailer running gear for all types of oil-field equipment.

The finest steel, specially suited for axles and springs, is used. Each axle is forged to form the spindle, then heat treated to bring the steel to proper strength and toughness. The spindle surfaces are precision ground for standard tapered roller bearings. Bearing surfaces are checked for accuracy of fit. Every operation of machining, grinding, and fitting is inspected for true measurements and proper workmanship. Grueling tests prove the temper and metal of Liggett springs before they leave the plant.

(Check 293 for Further Data on Above)

Link-Belt Co.

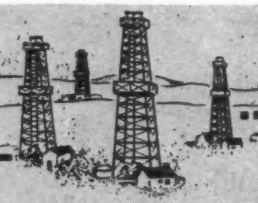
Chicago, Ill.

61-62-63 Texas Building

In attendance

GEORGE HOWSON, STUART PENICK, JOHN YETTER, WILLIAM BRINKWORTH.

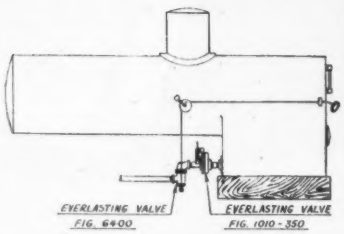
Quick—
Tough—
Handy—



...just what the driller ordered!

EVERLASTING
Oil Field Boiler Blow-off Valves

For more than 40 years Everlasting Valves have been recognized as the most dependable valves on Oil Field Boilers . . . known by drillers to assure trouble-free performance under long, hard usage.



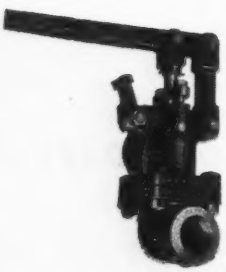
QUICK ACTING — For manual operation

Figure 1010-300 for 300 lb. pressure
Figure 1010-350 for 350 lb. pressure

Straight through blow — no clogging
Drop tight seal — maintained by pressure
Stellite Faced Disc regrinds itself
Dirt and scale cannot lodge under Disc and injure sealing faces.

SELF-CLOSING — For remote operation by cable from front of boiler

Figure 6400 for 400 lb. pressure



Monel Stem — will not corrode
Monel Disc and Stem in one piece — Disc cannot jar loose
Reversible Monel Seat — no tools needed
External stop — protects stem and gland.

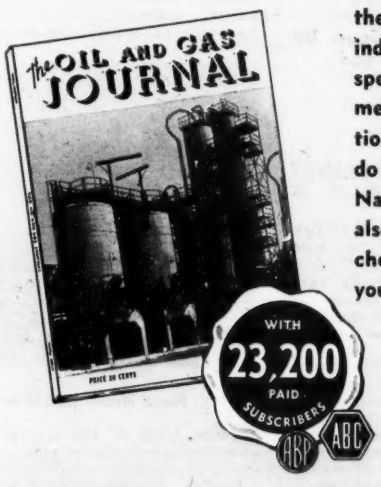
SOLD by all OIL FIELD STORES

Ask for Bulletins describing these valves

EVERLASTING VALVE COMPANY
49 Fisk Street, Jersey City 5, N. J.
Trade Mark "EVERLASTING" Reg. U. S. Pat. Off.

EVERLASTING VALVES *GIVE "EVERLASTING" SERVICE*

Leading The League . . .



Among oil publications, The Oil and Gas Journal "leads the league." With the world's largest circulation in the oil industry, it carries your advertising message to MORE prospective customers than you can reach through any other medium. Better still, The Journal's SELECTIVE circulation takes your advertising to the key men who actually do the buying or influence the purchasing of your product. Naturally, this largest of oil magazines in paid circulation is also largest in advertising volume. Since more oil men choose The Journal than any of the other 26 oil papers, your advertising in The Journal "scores a hit" every time.

"FOLLOW THE JOURNAL . . .
FIRST IN THE OIL INDUSTRY"

PUBLICATION OFFICE: TULSA 1, OKLAHOMA • OFFICES: NEW YORK, PITTSBURGH, CHICAGO
LOS ANGELES, HOUSTON, ENGLAND, CANADA

JAMES SAMUELL, THORNTON HUGHES, CHARLES WINTERS, FRANK BLAKE, CHARLES WEISS, AL FELLINGER, ORVIN GASKINS, RUSSELL SWEENEY, JERRUS BRYANT, GEORGE WOODY, ART MAHA, BYRON HARTMAN.

This exhibit is divided into three parts for the convenience of visitors. One section features Link-Belt shale shakers, with an NRM-124 mud screen set up for operation to show its rugged construction and how efficiently this model operates. Another section displays 14 types and sizes of Link-Belt rotary-drilling drive chain, roller chain and silent chain. A third section is devoted to a complete display of Link-Belt ball and roller bearings in both mounted and unmounted types.

There is also a Link-Belt NRM-134 dual hook-up mud screen in operation in conjunction with a complete drilling rig in the exhibit of Mid-Continent Supply Co. Still another Link-Belt NRM-134 dual hook-up mud screen is displayed by the Bettis Corp. This dual shale shaker NRM-134, size 36 by 48 in., is the new Model 45, completely unitized, readily transportable, mud-screen setup which was announced last fall for use on shallow, medium, or deep oil-well drilling work.

(Check 294 for Further Data on Above)

Lovejoy Flexible Coupling Co.

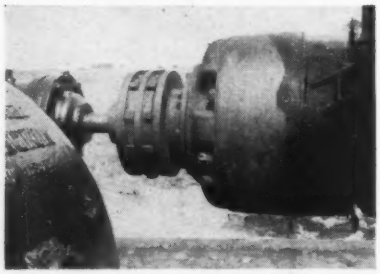
Chicago, Ill.

27 California Building

In attendance

E. L. STEVENS, CHARLES ROYER.

Lovejoy "L-R" flexible couplings, "Ideal" variable speed reducers, Select-O-Speed transmissions.



Lovejoy L-R flexible coupling on 2-cylinder 50 hp. 950-r.p.m. gas engine driving 2-cylinder Worthington reciprocating pump

(Check 295 for Further Data on Above)

Loveless Manufacturing Co.

Tulsa, Okla.

Block 107

In attendance

MARION W. LOVELESS, WILLIAM P. LOVELESS, J. E. REINHARDT

Shooting truck, dynamite trailer, cap box, engineer car, loading poles, stadia rod, field furniture.

(Check 296 for Further Data on Above)

Lubrikup Co., Inc.

Williamsport, Pa.

184 Oklahoma Building

In attendance

R. R. WYNNE, W. M. CONNOR, W. P. WOOD, M. L. FRAZIER, R. L. MITCHELL, I. G. BATDORFF

Valve cups, wood-type valve cups, Jerker-Kups, seating cups, fluid-seal rod packing, hydraulic jack cups.

(Check 297 for Further Data on Above)

Lufkin Foundry & Machine Co.

Lufkin, Tex.

Block 3

In attendance

L. A. LITTLE, D. A. REID, BYRON ROBBINS, NEWELL LYNCH, COOPER RICHARDS, ELVIN READ, CHARLES DYER, W. H. MINER, EDD TERRILL, ED CARAWAY, LINVILLE CARAWAY, TOM CROWDER, MOULTON HARRISON.

Pumping units, gas engines, engine-generator sets, highway trailers, truck winches, tractor winches, industrial gear reducers and speed increasers.

A representative group of seven pumping-unit assemblies are on display, ranging from the smallest T7-3A up to the TC-OL-61A.

Lufkin-Cooper-Bessemer oil-field pumping engines, the GSC vertical and the GSDH horizontal, are mounted on pumping-unit assemblies. Also a GSDH engine is in operation driving a generator in a unitized assembly especially designed as a portable power unit.

A typical Lufkin float-type highway trailer especially designed for oil-country service is on display, and also both sizes of Lufkin truck winches, Models 15 and 30.

The large oil-field-type tractor winch, Model 125 for 125,000-lb. line pull is also exhibited as a cutaway model and is in operation. The Model 60 is similar in design. Both models are especially adaptable to International tractors.

The N128 herringbone-geared speed increaser is in operation illustrating Lufkin's new line of industrial gear reducers and speed increasers. The Type N is especially designed for pipe-line-pumping service.

(Check 298 for Further Data on Above)

Lufkin Rule Co.

Saginaw, Mich.

121-122 Texas Building

In attendance

E. H. MEIBEYER, R. M. BENJAMIN, E. C. BROWN, B. L. EARNST, F. H. JORDAN, W. F. ROCKWELL

Oil-gagers tapes, derrick tapes, strapping tapes, engineers' and surveyors' tapes, complete line of measuring tapes including chrome clad steel, "Nubian" finish steel, metallic and other woven tapes, tape rules, wood rules, aluminum rules, precision tools.

(Check 299 for Further Data on Above)

Lukens Steel Co. and Divisions; By-Products Steel Corp. and Lukenweld, Inc.

Coatesville, Pa.

195 Oklahoma Building

In attendance

G. M. GILLEN, WILLIAM J. POWERS, CHARLES W. RIPPIE, FRANKLIN M. BELTRANDO.

Uniformity of cladding thickness plate test setup of Lukens Clad Steel, Clad Steel welding sequence panel, specimen plates of Lukens Clad Steels of different types, twist and tensile test specimens of Lukens Clad Steels, Lukens Clad Steel Head, photographs of plant facilities and Clad Steel applications.

The exhibit presents some of the advantages of Lukens Clad Steels for the petroleum industry with demonstrations, test specimens, and photographs. Lukens Clad Steels—Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad—consist of a light layer of corrosion-resistant material, nickel, stainless, Inconel or Monel, permanently bonded to a heavier backing plate of A.S.M.E.-quality steel. The cladding thickness is usually 10 or 20 per cent of total plate thickness but may be varied by special arrangement to suit specific applications. A testing device is displayed to demonstrate the uniformity of cladding thickness in a Clad Steel plate. Specimens of twist tests and tensile tests of clad material, to show the permanence of bond, are also on view. As an aid to fabricators, the welding sequence for clad steels is illustrated, with actual welded pieces. A flanged and dished head, formed of Lukens Clad Steel, is exhibited along with photographs to show forming operations in the Lukens plants. Important steps in the precision process by which Lukens Clad Steels are made are illustrated photographically, showing how these new bimetals are being utilized in the petroleum plant-expansion program.

(Check 300 for Further Data on Above)

Lunkenheimer Co.

Cincinnati, Ohio

67-68 Oklahoma Building

In attendance

H. E. LUNKEN, H. A. BURDORF, H. H. LAYRITZ, J. A. BIRKHEAD, D. R. DAVIS, S. H. HILL, C. B. ROSSER, JR.; M. N. STICKEL, E. R. TIEBERMAN, JOS. WALDECK, F. H. HEHEMANN, WM. BRINKMAN.

A complete line of bronze, iron, steel and corrosion-resistant valves, boiler mountings, air devices, lubricating devices, cocks, whistles.

New products featured in this display include a new line of 125-lb. S. P. bronze globe, angle and check valves; recently developed lines of 125, 150 and 200-lb. bronze gate valves; bronze globe and angle valves with 500 Brinell type stainless-steel plug seats and disks.

(Check 301 for Further Data on Above)

Mack-International Motor Truck Corp.

New York, N. Y.

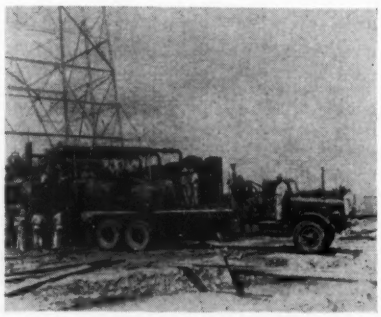
Block 104

In attendance

H. ROWOLD, M. C. HORINE, R. J. MEINERT, J. A. BRIGGS, R. W. ALLEN

LMSW-M six-wheel, off-highway oil-field truck; EH two-axle oil-field model truck; Mack's axle-type power divider.

Power and capacity are stressed in the design of Mack's Model LMSW-M—a six-wheel, off-highway truck designed particularly for oil-field work. Standard in this model is Mack's own 196-hp. Thermodyne engine, featuring a redesigned form of combustion chamber, advanced porting and valving, and improved spark-plug location. Available as options are diesel and butane



Mack Model LMSW-M truck

engines. Used in the LMSW-M is Mack's own five-speed transmission, with a three-speed Brown-Lipe auxiliary.

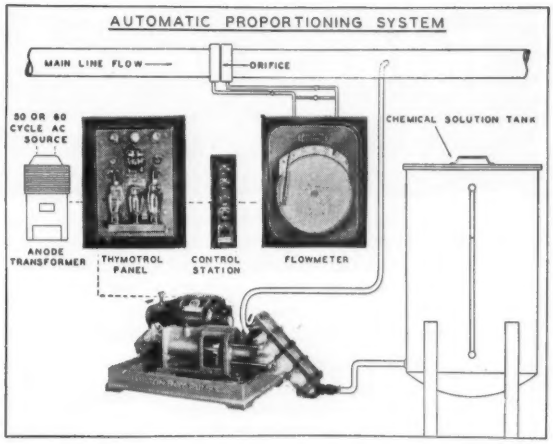
Teamed in this oil-field model are the Mack Balanced Bogie and Power Divider, a combination which, the company claims, assures the most outstanding six-wheeler performance ever attained. This flexible and sturdy bogie, says Mack, keeps all wheels on the ground, regardless of rough

see what's NEW

IN CONTROLLED VOLUME PUMPING AT THE INTERNATIONAL PETROLEUM EXPOSITION

Visit with us in the Kansas Building, Booths 23-24, International Petroleum Exposition, Tulsa, May 15-22, and see

- ***Milton Roy Controlled Volume Pumps In Action***
- ***The latest developments in automatic chemical feed systems***
- ***An automatic proportioning system demonstrated***
- ***A new development of real interest to the Petroleum Industry***



In refinery operations hundreds of Milton Roy Pumps are in successful operation handling hot or cold distillates, solvents, furfural, sweet or sour naphtha fractions, liquefied petroleum gases, tars and asphalts, acids and acid sludges. They are used in solvent extraction, blending processes and controlled catalyst make-up. For pilot plant applications they combine in a single unit a metering and liquid transfer medium against any desired pressure.

These Milton Roy Pumps are available with completely automatic volume control, for applications such as adding inhibitors or tetraethyl lead, neutralization of sulfides, or others where very precise automatic metering of the volume of liquid pumped is advantageous. This precise control of volume, down to 1 pint per hour, is accomplished by means of electronic circuits which regulate the speed of the pump (strokes per minute) in direct ratio to any variable that can be metered . . . such as rate of flow, as illustrated above, temperature, pressure, liquid level, gas analysis, chemical concentrations, etc.

If you can't get to Tulsa write for new catalog No. 146. Inquiries on specific applications are invited.

booths 23-24

KANSAS BUILDING

MILTON Roy COMPANY

WITH THE EXCLUSIVE STEP-VALVE DESIGN

1326 E. MERMAID LANE, CHESTNUT HILL, PHILA. 18, PA.

Tighten up your safety rules

. . . be sure your men use Ampco Safety Tools near hazardous, explosive fumes, gasses, or dust

A safety program that works is one that works *all the time.* One broken rule . . . one careless tool . . . one small spark in the wrong spot can undo all the good your safety program has accomplished in years.

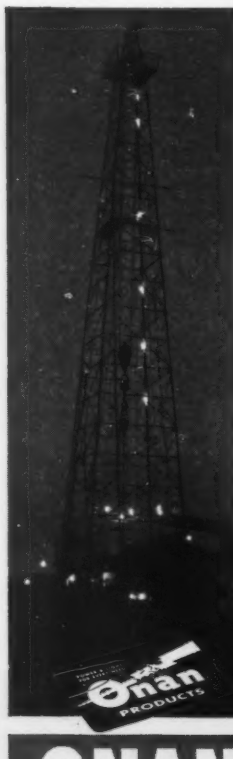
That's one danger you can offset by this hard and fast rule: *Always use Ampco Safety Tools where a spark can spell immediate disaster!*

You can find a tool that is safe for every job—from the 500 standard types and styles shown in Ampco's new 28-page catalog. Send for your free copy today. Write *Ampco Metal, Inc., Dept. OG-5, Milwaukee 4, Wis.*

AMPCO TRADE MARK

In Canada, contact Safety Supply Company, Toronto

S-36



NIGHT and DAY

ONAN ELECTRIC PLANTS SPEED OIL FIELD JOBS

For any kind of lighting, for operating electric tools and equipment, dependable Onan Electric Plants do the job under the severest of oil field conditions. Ruggedly built to run at full capacity continuously with a minimum of upkeep, Onan Plants have earned a reputation for low-cost reliability from coast to coast and around the world.

Lightweight one and two-cylinder air-cooled models for maximum portability. Onan two, four and six-cylinder water-cooled plants for continuous operation. Gasoline-powered from 350 to 35,000 watts. Diesel-powered from 2,500 to 35,000 watts.

D. W. ONAN & SONS INC.

2744 ROYALSTON AVE. • MINNEAPOLIS 5, MINN.

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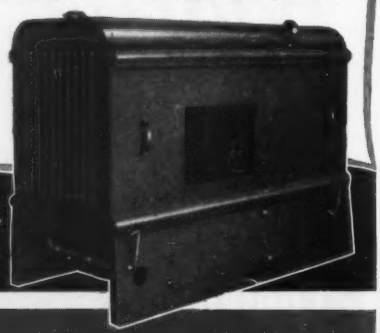


Model 5GO
5000 watts A. C.

Onan PRODUCTS

ONAN ELECTRIC PLANTS

I.P.E. DIRECTORY

terrain, assures freedom from hopping and provides perfect tracking. Hydraulic power steering is a standard feature of the LMSW-M. An extra-long wheelbase of 264 in. and appropriate rear frame overhang, as well as a specially engineered winch-mounting and 20-ft. load bed, have been developed for this truck.

The Mack EH oil-field truck, powered by a 354-cu. in., 6-cylinder, L-head gasoline engine, is described by the company as an extremely rugged truck designed for oil-field work not requiring the larger LMSW-M. It has a 176-in. wheelbase and carries a 150-in. platform. Special features include a fifth wheel mounted on the body so that the truck can be used for hauling a float-type trailer, or, on occasion, can be used for moving equipment around the oil field on its back. Included also are a frame-mounted winch operated by power takeoff, and rolling tail pipe, headache posts, and gin poles.

(Check 302 for Further Data on Above)

Macwhyte Co.

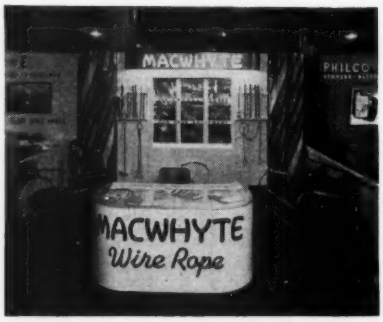
Kenosha, Wis.

130-131 Oklahoma Building

In attendance

F. J. NELSON, J. A. LONG, R. P. TYLER, H. M. ROBINSON, D. E. WOOD, R. E. SAWYER.

Wire rope for rotary drilling and cable-tool drilling, stainless steel wire rope, Monel metal wire rope, "Safe-Lock" swaged cable assemblies, braided wire-rope slings, and wire rope for all equipment needs.



At this booth Macwhyte representatives present visitors with new books on how wire rope is made and used, and explain the company's new custom-made safety slings and cable assemblies

(Check 303 for Further Data on Above)

P. E. Madden Co.

Chicago, Ill.

86 Scientific and Technical Building

(Check 304 for Further Data on Above)

Magnaflux Corp.

Dallas, Tex.

11 Silver Lane

In attendance

GEORGE L. C. DEHN, R. O. SCHIEBEL, JR.

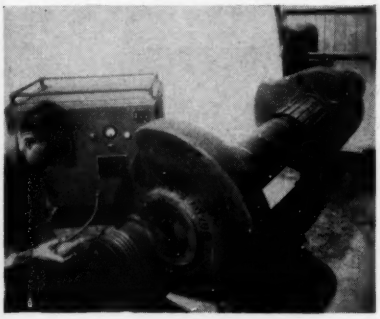
Magnaflux inspection unit, powder blower, Sonizon, Stresscoat, Magnaglo.

Magnaflux is the name applied to magnetic particle inspection used by many oil-field equipment manufacturers to produce material free from discontinuities which would cause failure in use, such as rock bits, tool joints, drill collars, pumping units, draw works and similar equipment.

Magnaflux is also used in maintenance

and overhaul work for inspection of tubing, casing, drill pipe, collars, mud pumps, draw works, and other types of equipment in oil-tool shops and by field service organizations.

Magnaflux Corp. has developed and refined the technique of inspection so that it is easily used on all types of parts for finding surface and subsurface discontinui-



Showing Magnaflux in use

ties which would cause failure in use of the part, thereby eliminating costly shutdowns, fishing jobs and other expensive nonproductive operations.

(Check 305 for Further Data on Above)

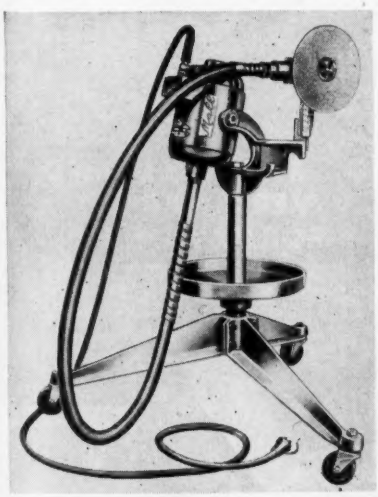
Mall Tool Co.
Chicago, Ill.
38 Silver Lane
In attendance
FRANK FISHER, JAMES HARDMAN, R. W. PROCTER

Portable electric saws and drills; gasoline-engine power saws; gasoline engine, electric, and pneumatic concrete vibrators; flexible-shaft grinders, sanders, and polishers.

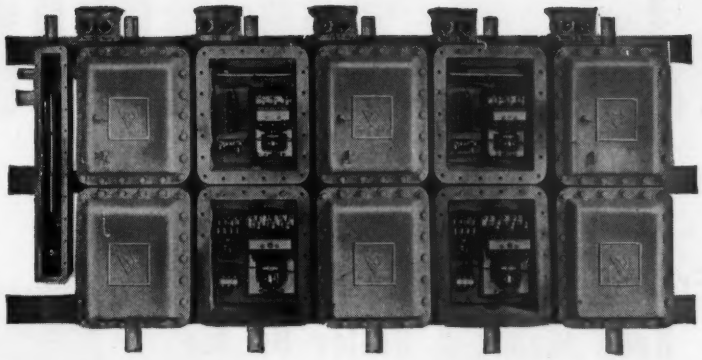
The exhibit features the latest Mall gasoline engine and electric chain saws which can be used for clearing land of trees and brush or for cutting timber for building new rigs and are easily handled by two men and can cut in any direction.

Also an exhibit of Mall saws and drills for use in the repair shop—portable electric tools in many sizes for every application. The Model 60 saw can be used as a saw, table saw, shaper, grinder, wire brusher, tool sharpener, plus many others.

Other Mall tools on exhibit are a com-



Mall flexible-shaft grinder



EXPLOSION PROOF CONTROL PANEL FOR FIVE GROUPS OF ELECTRICAL STRIP HEATERS INSTALLED ON ETHYLENE GAS PIPE LINES & DRUMS. THE PANEL MADE UP OF FIVE SECTIONS & EACH SECTION CONTROLS SEPARATELY ONE GROUP OF HEATERS. A MOTOR OPERATED SEQUENCE SWITCH & TEMPERATURE INSTRUMENTS (NOT SHOWN) OPERATES THE VARIOUS CONTACTORS & RELAYS SO THAT THE HEATERS ARE CONNECTED IN PARALLEL OR IN SERIES DEPENDING ON THE TEMPERATURE REQUIREMENTS.

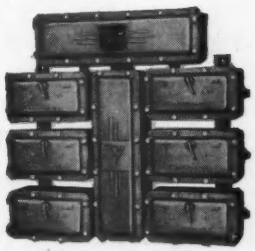
R&S CUSTOM BUILT PANELS

FOR ALL HAZARDOUS AREAS

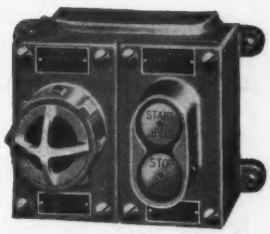
Over the years R&S has pioneered in the development and standardization of precision-built control equipment in keeping with industries' expanding requirements of new processes and codes.

A large variety of standardized explosion-proof enclosures is available for grouping and assembly of control and power units in panel form, at minimum cost and without the usual delay of special designs.

R&S Standard Enclosures have wall sections permitting a great variety of conduit arrangements and sizes to suit job requirements. This simplifies material lists and reduces inventories caused by field changes.



CIRCUIT BREAKER PANEL FOR LIGHT OR POWER



PUSH BUTTON STATION WITH PILOT LIGHT

New 108-page Catalog No. H-47-B completely describes and illustrates Russell & Stoll *Explosion-Proof products. Copy of catalog mailed when requested on your business letterhead.*

Sold Through Electrical Wholesalers

SALES OFFICES IN PRINCIPAL CITIES

34

SINCE 1902

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

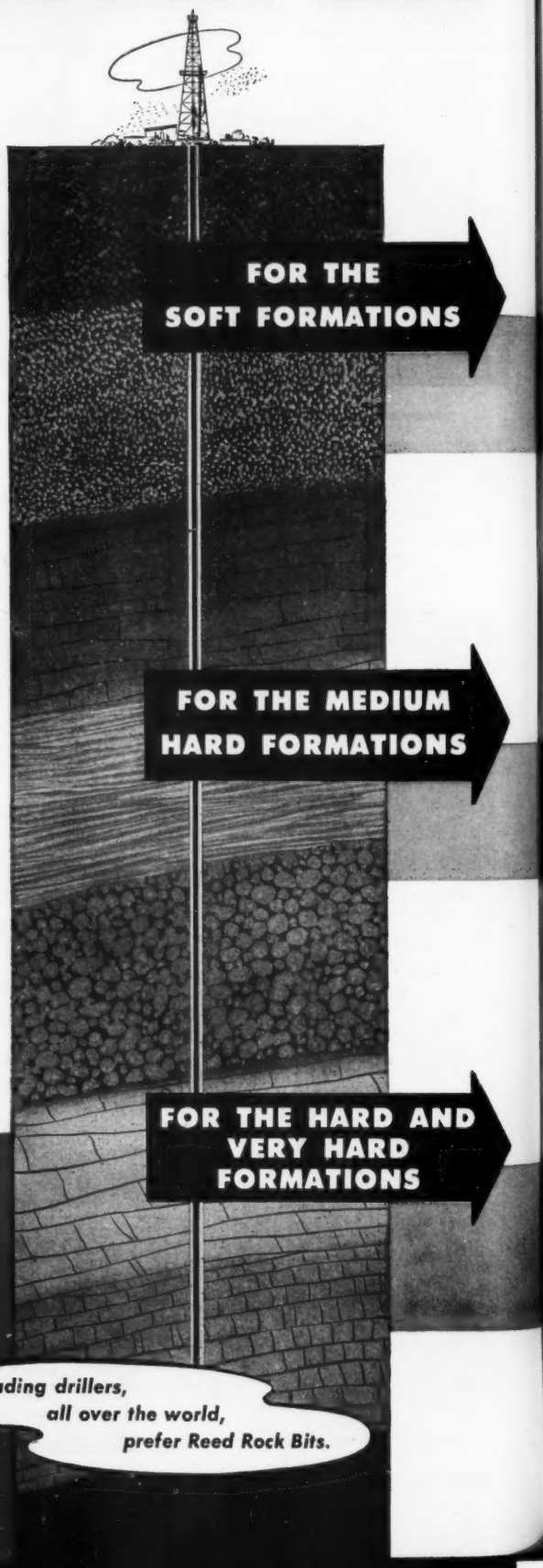
THE RIGHT BIT

From Spudding In to Pay Sand, Reed Makes A Better Bit for Every Formation

All Reed bits will do an exceptionally good job of drilling, but to get the most efficiency possible Reed has designed ten different bits, each for a specific class of formation to give you faster drilling, a straighter hole and more footage per bit.

See your Reed representative. Let him show you the types of Reed bits that are doing extremely good jobs under conditions similar to yours. Ask him about the actual footages that are being obtained in the various formations. Then try Reed bits yourself and watch your drilling costs go down.

All Reed Bits do a superior job of drilling because they have "Reedite" faced teeth for longer wear, unitized construction for greater strength and twisting-tearing action for faster drilling.



REED ROCK BITS

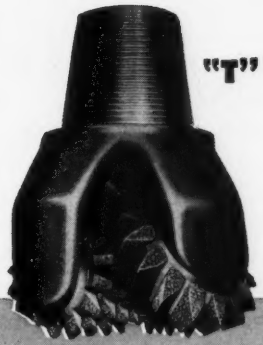
Leading drillers, all over the world, prefer Reed Rock Bits.

XUM

ALL THE WAY DOWN

"TST-1"

For Top Hole Drilling



"T"

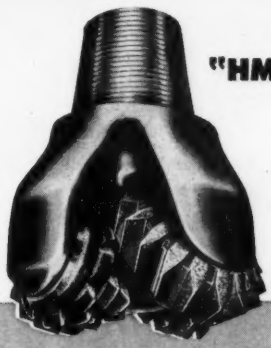
For Sticky Formations and Shale, Salt, Unconsolidated Sands, Soft Limestone, Etc.

"2T"

Where Streaks of Abrasive Formations Are Interspersed With Soft Limestone, Shale, Etc.

"M"

For Salt, Gypsum, Anhydrite, Medium Hard Shale, Lime Rocks, Etc., Including Unconsolidated Sands.



"HM"

For Medium Hard, Non-Abrasive Lime Rocks and Broken Formations.

"2HM"

For the Medium Hard Abrasive Limestones and Broken Formations.

"2"

Medium Hard Formations which Chip Easily, Such as: Anhydrite, Hard Lime Rock, Hard Shale, Etc.

"2H"

For the Hard, Dense Limestones and Abrasive or Non-Abrasive Limestones and Sands.

"2HS-1"

Especially Designed for Drilling Hard Formations with Heavy Drilling Weights.

"2C"

For Hard, Abrasive Formations and the Hard, Dense Lime Rocks, Abrasive Sands, Chert, Etc.

REED ROLLER BIT COMPANY

P. O. BOX 2119 HOUSTON 1, TEXAS

LONDON: 59 Wool Exchange, Coleman St., London E.C.2, England
NEW YORK: 1836 RCA Building, New York 20, New York
ARGENTINA: Avenida Presidente Roque, Saenz Pena 1124, Buenos Aires, Argentina

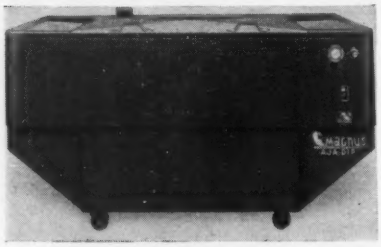
plete line of concrete vibrators, gasoline engine, electric and air powered; flexible-shaft grinders in a variety of mountings for prewelding grinding jobs; plus Mall portable sanders and polishers.

(Check 306 for Further Data on Above)

Magneto Ignition Co.
Tulsa, Okla.
129-130-131 Kansas Building
(Check 307 for Further Data on Above)

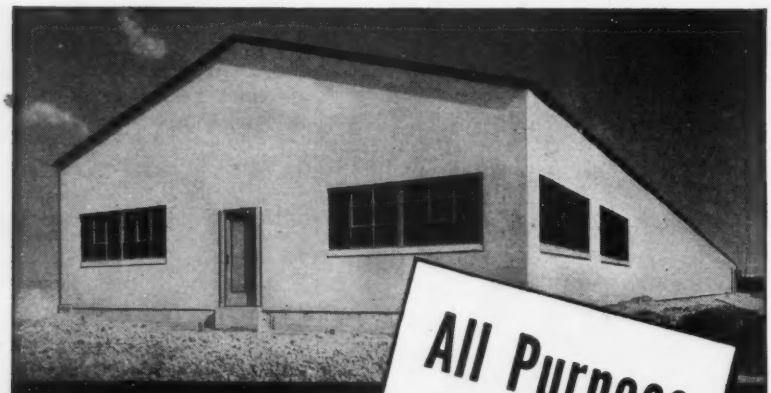
Magnus Chemical Co., Inc.
Garwood, N. J.
46 Texas Building
In attendance
THOMAS O'BRIEN, W. E. O'MEILIA

Chemical cleaning compounds for use in oil-producing and refining industries, and Magnus Aja-Dip cleaning machines for cleaning of metal parts.



Cleaning machine

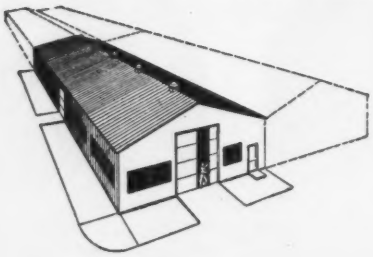
(Check 308 for Further Data on Above)



STANDARD PRODUCTION BUILT UNITS

Available in basic unit widths 40′, to 100′ clear span.
Length adjustable in increments of 20′.
Clearance at eaves 12′ to 20′.
Unlimited width through multiple unit system.

NOW IN PRODUCTION



FEATURING

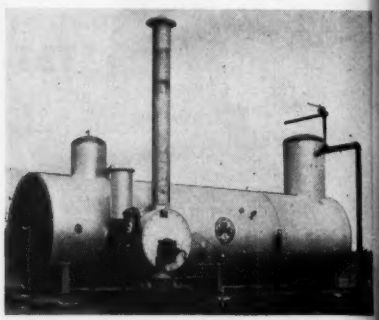
- **PERMANENT STRUCTURES**
- **HEAVY STEEL CONSTRUCTION**
- **COMPLIANCE WITH CODES**
- **SIMPLICITY OF DESIGN**
- **ECONOMICAL ERECTION**

Write for Specifications and Prices

LURIA ENGINEERING CORPORATION

500 Fifth Avenue, New York 18, N. Y. | **1734 Candler Bldg. Atlanta 3, Georgia** | **First National Bank Bldg., Chicago 3, Illinois**

Maloney-Crawford Tank & Manufacturing Co.
Tulsa, Okla.
116-117 Texas Building
In attendance
S. A. WILSON, E. E. STOREY
T. J. COSTELLO
Horizontal heater-treater.

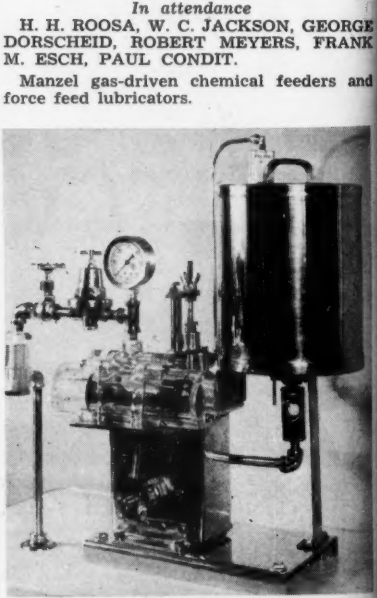


Utilizing a long travel salt water wash, indirect heating of the emulsion, and adequate settling space to break the emulsion, this new horizontal treater has proven its ability to treat the tightest emulsions. No upending is necessary with the Maloney-Crawford horizontal emulsion treater. Connections are accessible from ground level, facilitating hookup of the unit

(Check 309 for Further Data on Above)

Manzel, Inc.
Buffalo, N. Y.
50 Oklahoma Building
In attendance
H. H. ROOSA, W. C. JACKSON, GEORGE DORSCHEID, ROBERT MEYERS, FRANK M. ESCH, PAUL CONDIT.

Manzel gas-driven chemical feeders and force feed lubricators.



Manzel CH 47-T gas-motor-driven chemical feeder. This Lucite motor illustrates the driving members in actual pumping operation. These feeders are used in chemical treatment of crude-oil lines

(Check 310 for Further Data on Above)

Manning, Maxwell & Moore, Inc.
230 Oklahoma Building
In attendance
L. P. STILLMAN
Consolidated safety relief valves, Consoli-

SILVER
1923 IPE 1948
ANNIVERSARY

WELCOME

to the International Petroleum Exposition. Be sure to visit the Indians—Booth 42, Silver Lane.

CHIEF
INDIAN DRILLING MUD CO., INC.
DRILLING MUD

INDIAN
OIL EMULSION MUD
EIGHT WAYS BETTER

Indian Oil Emulsion Mud gives you all these advantages: • No special equipment needed • No shut-down time Eliminates labor difficulties—no muss . . . no fuss • No special logging equipment needed (resistance 1.3 ohms.) Eliminates well cake peeling • Easily controlled filtrate (under 1 cc.) • Easily controlled weight (–8.35 to 18.00 lbs. per gallon.) • Easily controlled viscosity. • AND the cost is only $2.50 per barrel as compared with the approximate $12.00 per barrel commonly paid for available oil base or emulsion muds.

The extensive field experience of the Indians in mud service in holes as deep as 17,823 feet is given freely.

"GIVE YOUR MUD PROBLEMS BACK TO THE INDIANS"

INDIAN
DRILLING MUD COMPANY, INC.

GENERAL OFFICE: BRITTON, OKLAHOMA
TELEPHONE: OKLAHOMA CITY 8-3464

OKLAHOMA ★ WEST TEXAS ★ NEW MEXICO ★ KANSAS

dated safety valves, Ashcroft gages, Hancock gate valves, Hancock globe valves, Hancock blowoff valves, American instruments, American industrial thermometers, American dial thermometers.

The exhibit covers materials manufactured in the company's Bridgeport, Conn., factory; Watertown, Mass., factory; Stratford, Conn., factory and Tulsa, Okla., factory. All of these materials are used in all phases of the oil industry.

(Check 311 for Further Data on Above)

Steve C. Maples & Co.

Tulsa, Okla.

5-6 Scientific and Technical Building

In attendance

ROBERT A. MOORE, FORREST H. HICKMAN, S. A. McKINNEY, L. R. CUTLER, STEVE C. MAPLES

Jari power scythe, Quigley Co. refractories and insulating materials, Quigley Panel Constructions Co. refractory panels, Kidde fire extinguishers, Sarco traps and stainers, Manzel lubricators and feeders, Wheeling expanded metal, Helicoid gages, Reilly tar products.

(Check 312 for Further Data on Above)

Clayton Mark & Co.

Evanston, Ill.

Block 7

In attendance

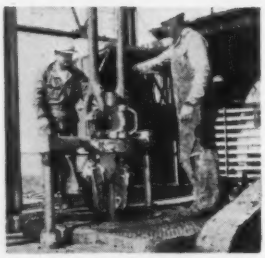
ORA C. COX

With Continental Supply Co.

Forged steel unions and union check valves, Petro unions and handle-bar unions. The exhibit will be shown under black light.

(Check 313 for Further Data on Above)

DeCo Power Slips ARE BALANCED



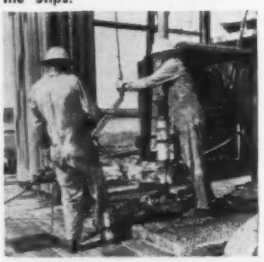
The driller has let down a joint of pipe . . . now a quick touch of the control valve to engage the Slips.

For SPEED ECONOMY SAFETY

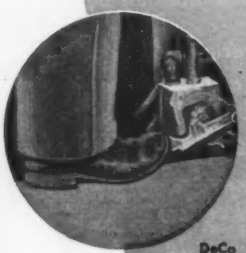
FASTER, SMOOTHER ROUND TRIPS

DeCo Power Slips are "Balanced" by two operating pistons on opposite sides of the rotary . . . equalizing weight on each side, assuring perfect centering, allowing extra safety for floormen by eliminating hand slips, and minimizing the number of working parts for simplicity of operation.

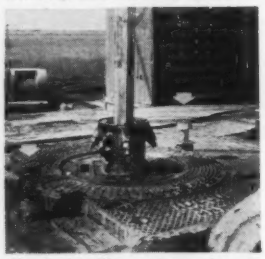
The driller's coordinated operation of DeCo Slips with elevator and brake settings means faster, smoother, less costly round trips. The Slips handle all sizes of pipe or casing from 2⅜" to 7".



While floormen make up or break out a joint of pipe, note the low setting of the DeCo Slips allowing more working space.



DeCo Slips are alternately set and raised by a single air pressure valve on the floor at the driller's position.



The DeCo Slip spider and arms are removed with no obstruction to hamper operations. Air pistons are down out of the way.

THE DELANEY COMPANY

Steel Fabricating-DeCoForged Steel Well Head Equipment-DeCo Power Slips-Forgings

6119 E. Montgomery Rd. Houston, Texas

Marley Co., Inc.

Kansas City, Kans.

78 Kansas Building

In attendance

L. A. CHRISTENSEN, ROY MAZE, L. T. MART, R. T. JENKINS, H. E. DEGLER, W. O. KRETZMEIER, J. T. McKINLEY, E. T. GESSELL, WALTER S. SMITH, J. A. CAMERON.

Spray nozzles and a scale model of double-flow cooling tower with suitable pictures.

The feature of the exhibit is a Model 24B double-flow cooling tower scales to 1 in. equals 1 ft., mounted on a drum 6 ft. in diameter and 22 in. high. The complete assembly turns approximately 1 r.p.m., thus enabling visitors to stand in one position and see the complete tower.

A bulletin bar is provided with cards so guests may request literature mailed direct to their home addresses. The background panels of the booth contain photographs of Marley installations lighted indirectly with fluorescent tubing. There is also a display of Marley nozzles.

(Check 314 for Further Data on Above)

Marlow Pumps

Ridgewood, N. J.

86-87 Kansas Building

In attendance

A. S. MARLOW, JR.; A. S. RUBIN, JR.; J. JORDAN

Model 304 Marlow "Mud Hog" diaphragm pump; Model 37-H high-pressure self-priming centrifugal pump; Model 14A-2 portable self-priming centrifugal pump; Model 10EV vertical, electrically driven, self-priming centrifugal pump.

(Check 315 for Further Data on Above)

Marman Products Co., Inc.

Inglewood, Calif.

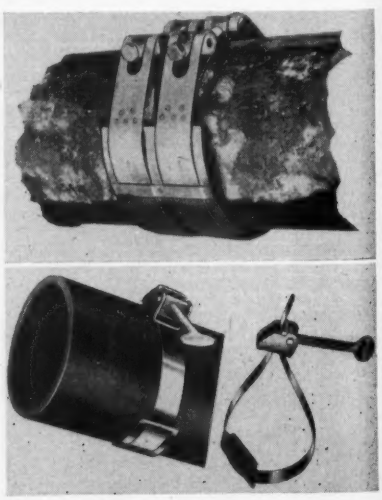
8-9 Silver Lane

Pipe leak clamps.

The display includes the three mainstays of the Marman line, the Patchmaster, low-pressure, and high-pressure clamps. In addition several new types designed for specialized application are shown.

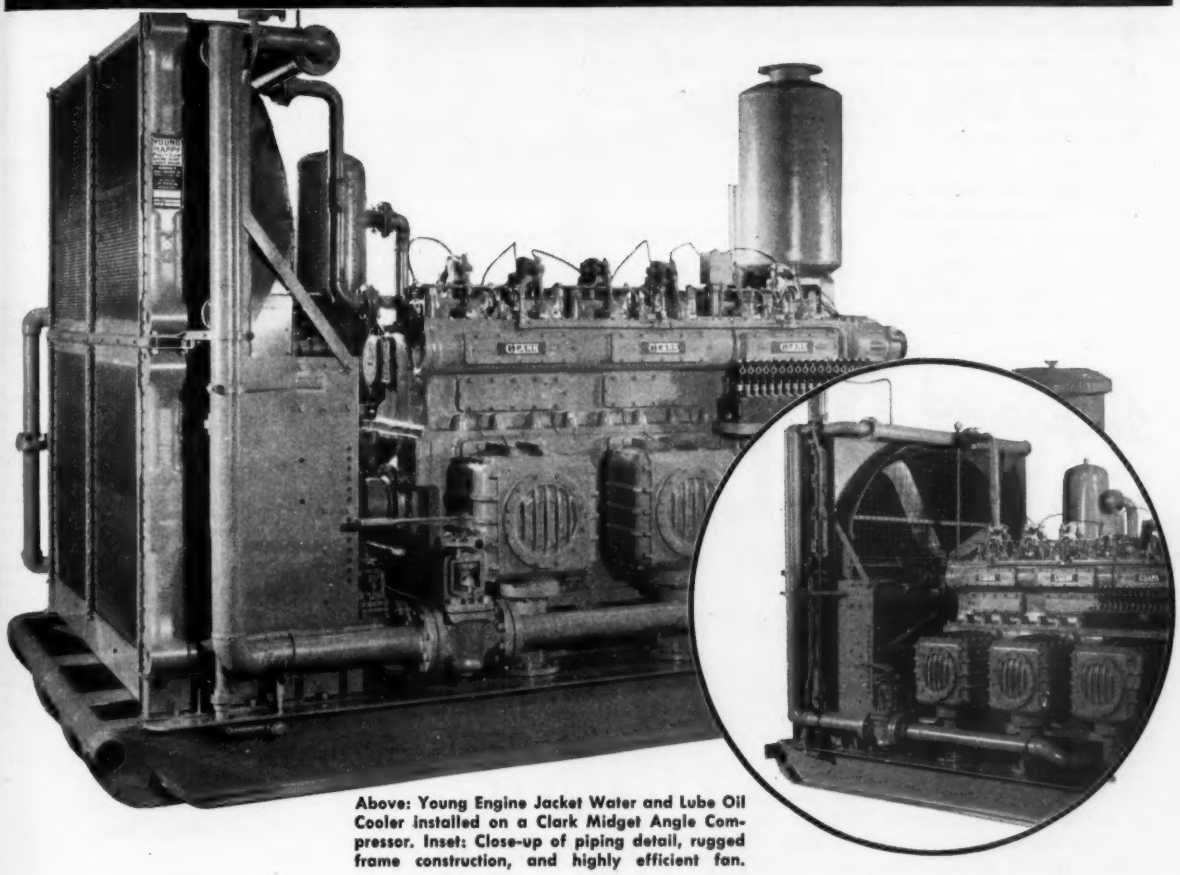
The Patchmaster is designed to stop leaks on low or high-pressure pipe ranging in size from ½ to 4 in. in diameter. It consists of a corrosion-resistant, stainless-steel clamp and a specially designed patch plate of stainless steel annealed sheet, and backed with a Hycar oil-resistant pad.

The low-pressure clamp is made in six



Top: Marman high-pressure clamp. Bottom: Marman Patchmaster

MULTIPLE COOLING FOR GAS COMPRESSORS



Above: Young Engine Jacket Water and Lube Oil Cooler installed on a Clark Midget Angle Compressor. Inset: Close-up of piping detail, rugged frame construction, and highly efficient fan.

● Portable gas compressors call for compact cooling units. Standard Young Jacket Water Coolers are the favorite heat transfer units in the field or at the refinery because they are specially developed for the equipment they serve. In addition to cooling jacket water and lube oil, Young Units are available for gas cooling between stages, making possible a complete, engineered cooling system from a single manufacturer.

Maintenance or repair service is never a problem with users of Young Oil Field Cooling Equipment. Young oil field distributors, such as The Happy Co., co-engineer in the above application for Clark Bros. Co., Inc., Olean, N. Y., are easily accessible for service and replacement parts with branches at strategic points throughout the Mid-Continent oil fields. Take advantage of the experience of more than two decades' specialization in research, engineering and manufacturing . . . use Young Quality Heat Transfer Products.

YOUNG

HEAT TRANSFER PRODUCTS

Young Quality

YOUNG RADIATOR CO.

Dept. 228-E Racine, Wis., U.S.A.

AUTOMOTIVE AND INDUSTRIAL PRODUCTS

Gas, gasoline, Diesel engine cooling, radiators • Jacket water coolers • Heat exchangers • Intercoolers • Condensers • Evaporating coolers • Oil coolers • Gas coolers • Atmospheric cooling and condensing units • Supercharger intercoolers • Aircraft heat transfer equipment

HEATING, COOLING AND AIR CONDITIONING PRODUCTS

Convectors • Unit Heaters • Heating coils • Cooling coils • Evaporators • Air conditioning units •

OIL FIELD DISTRIBUTORS

Mid-Continent Area: The Happy Company, 310 E. 10th St., Tulsa 1, Oklahoma. West Coast Area: A. R. Flourney Co., 5043 Santa Fe Ave., Los Angeles 11, Calif. Michigan Area: H. J. Young, 1364 Lake Shore Drive, Muskegon, Michigan.

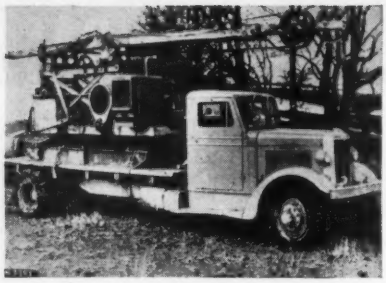
sizes to fit all pipe from ½ to 12 in. It is made of stainless steel and utilizes a Hycar pad resistant to deterioration by hot or cold water, gas, or oil.

The high-pressure clamps are designed to fit all sizes of pipe from 2 to 8 in. They are designed as permanent repair clamps for high-pressure leaks up to 1,100 psi.

(Check 316 for Further Data on Above)

Marmon-Herrington Co., Inc.
Indianapolis, Ind.
Block W
In attendance
HAROLD L. FISHER, CLIFTON T. ELLIS, FRED M. MYERS

The exhibit comprises four regular heavy-duty models and the complete line of standard Ford models converted to all-wheel-drive.



Marmon-Herrington truck in oil-field service

Marmon-Herrington regular heavy-duty trucks are displayed in both four-wheel and six-wheel-drive models, with gross vehicle weights up to 42,000 lb. All models have a drop-type frame, with kickup over the front axle, giving a low center of gravity and forward placement of the front wheels.

Marmon-Herrington all-wheel-drive converted Fords are shown in standard models converted to four-wheel drive and six-wheel drive. This is not an attachment but is actually built into each vehicle, becoming an integral and permanent part of each.

(Check 317 for Further Data on Above)

Marshall Supply & Equipment Co.
Tulsa, Okla.
95-96 Kansas Building
In attendance
W. P. MARSHALL, JR.; FRED C. ROBBINS, A. L. CURTIS, FRED R. DIBERT, GEORGE I. WINGO, E. T. ROHRKASTE, ORVILLE G. FRANTZ, JR.; HARRY R. PRITCHETT, JOE H. DIBERT.

Air Reduction Sales Co. welding equipment; American Fork & Hoe Co. shovels and steel goods; Armstrong lathe tools and wrenches; Brown & Sharpe tools and cutters; Black & Decker electric tools; Carboloy tool bits and tips; Carborundum abrasives and grinding wheels; Century motors; C-O-Two fire equipment; Cleveland twist drills and cutters; Columbian vises; Crescent wrenches and pliers.

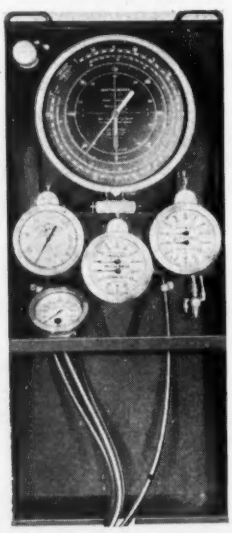
DeWalt saws; Dodge bearings and transmission equipment; Greenfield taps and dies; Jenkins valves; Link-Belt transmission equipment; Lufkin rules and tapes; Nicholson & Heller files; Osborn brushes; Oster pipe machines.

Plomb wrenches and sockets; Pyrene fire extinguishers; Ridge wrenches and pipe tools; Starrett precision measuring tools; Thompson Milford saw blades; Toledo pipe-threading devices.

(Check 318 for Further Data on Above)

Martin-Decker Corp.
Long Beach, Calif.
Block 4
In attendance
E. L. DECKER, E. M. DONOVAN, JACK CLEMENS

Type "D" weight indicator, Sealtite drilling control instrument, Clipper Sealtite weight indicator, Clipper tool-pusher weight indicator, Drillogger, automatic rate-of-penetration recorder, pump dynomometer, Hi-Pressure check valves, hydraulic 25,000-lb.



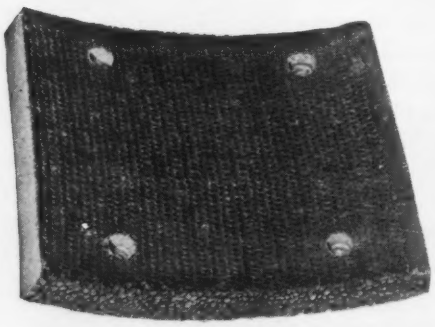
Type "D" weight indicator

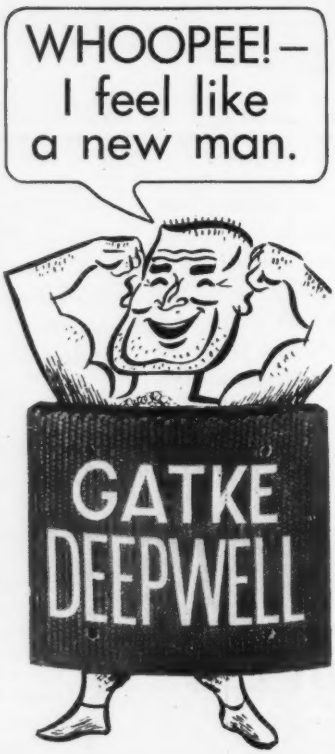
Improved **GATKE DEEP-WELL**
WOVEN BRAKE LINING
Pre-War Quality—Plus

Once again we are able to make Brake Lining for Draw Works as it should be made. Availability of essential materials makes this possible!

What's more, improved techniques and facilities, developed since 1941, further advance the famed Pre-War Quality for which GATKE DEEP-WELL WOVEN is renowned.

That's why today's GATKE DEEP-WELL offers performance quality never before obtainable.





Avoid substitutes. **Your Rig Manufacturers have GATKE Brake Lining that's engineered for the job.**

GATKE CORPORATION
236 N. La Salle St., Chicago 1, Ill.

Look at this bearing construction in

E-M Heavy duty

2-POLE SQUIRREL CAGE

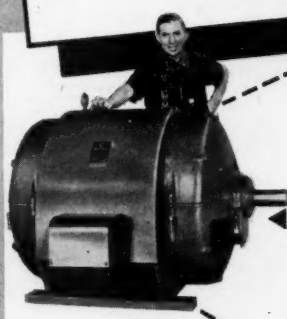
Induction Motors

YOU CAN'T TAKE dependability for granted when you buy big motors. Make sure the toughness and reliability you want are built-in! The right kind of bearing engineering, for example, can mean the difference between faithful, profitable performance and costly unnecessary shutdowns.

Consider 2-pole induction motors; whether you use these motors for boiler feed pumps, oil pipe line pumps or other exacting high-speed drives, you'll place bearing dependability first . . . in such applications, you can really appreciate the wear resistance, the protection and the cool-running qualities engineered into this E-M bearing.

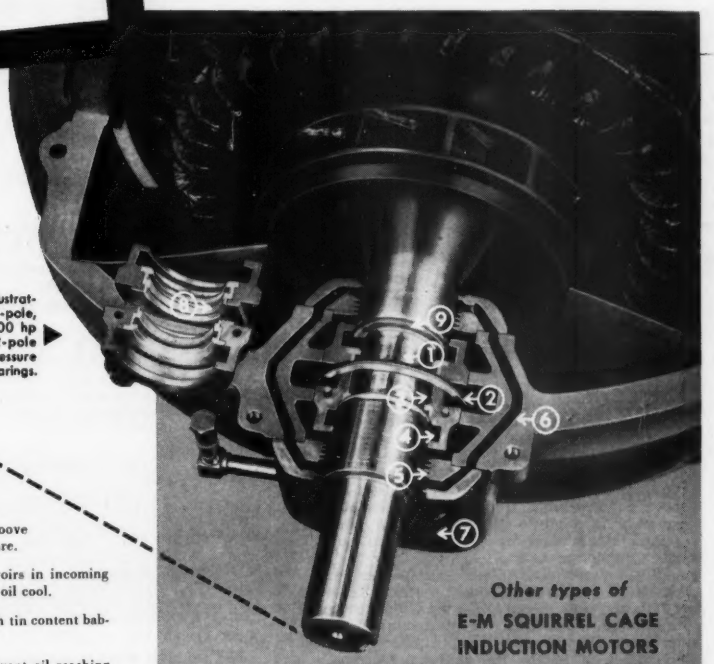
Check and compare these other big-motor features, too: Long-life insulation, indestructible rotor construction, and motor protection. Close scrutiny will show that, in these features, as in bearing design, E-M Heavy-Duty Induction Motors are in a class by themselves. Products of a half century of big motor engineering, these motors may be described in four simple words: *More for your money.*

ELECTRIC MACHINERY MFG. CO.
MINNEAPOLIS 13 • MINNESOTA



Two-pole, drip-proof; ring lubricated bearings.

Bearing construction illustrated is available on 2-pole, 50-60 cycle, 200-700 hp motors. Larger 2-pole ratings use pressure lubricated bearings.



KOLENE-PROCESS

. . . electrolytic cleaning and centrifugal-cast bearing lining assures dense, uniform babbitt and tight bonding to the bearing sleeve.

1 Modern one-to-one ratio provides full seating.

2 Central location of oil ring confines turbulence.

3 Special contour of bearing insures uniform film distribution.

4 Drain channels prevent leakage.

5 V-groove seals with no wearing parts maintain full efficiency.

6 Anti-suction groove equalizes pressure.

7 Large oil reservoirs in incoming air stream keep oil cool.

8 Bearing has high tin content babbitt lining.

9 Oil slingers prevent oil reaching shaft proper.

Other types of
E-M SQUIRREL CAGE INDUCTION MOTORS

Two-pole; drip-proof, pressure-lubricated bearings.

Four or more poles; drip-proof; sleeve bearings.

Four or more poles; splash-proof, ball bearings.

THE FEATURES YOU WANT!

● Featuring many up-to-the-minute advances in big motor construction, E-M Squirrel Cage Heavy Duty Induction motors are available with drip-proof and splash-proof protection. E-M motors have NEMA Class B starting characteristics. Thus, they have low starting current, making practical in most cases the use of across-the-line starting with its simplicity and low cost. Write for further information . . . or have your E-M field engineer give you complete details.

E-M SPECIALISTS IN **BIG MOTOR** ENGINEERING

1300-TPA-2070

pressure booster, utility model pulsation damper.

(Check 319 for Further Data on Above)

John N. Martin, Manufacturer

Tulsa, Okla.

41 Oklahoma Building

In attendance

JOHN N. MARTIN, W. D. HULETT, E. W. BROCKMAN

Martin plungers for oil-well pumps, rings and parts for Martin plungers, Martin cages for oil-well pumps.

Synthetic-rubber ball guides in oil-well pump cages is the company's latest development. Since resilient rubber is not subject to "peining" action by the ball, wear on the guides is extremely slow. These guides provide mechanical protection for the ball, as well as being nonmagnetic and nonconductors of electricity. This product is said to reduce both cage and ball and seat troubles.

Natural rubber in the resilient rubber and duck rings of the Martin plunger provides the wearing qualities needed for well pumping. The one-piece grooved body provides the needed strength against fluid load or pressure, and at the same time divides the load equally among all of the rings. Each five-ply ring will carry about 70 ft. of well head or depth; thus 30 rings will handle 2,100 ft., 60 rings will handle 4,200 ft. Proper working fit is obtained by using correct ring size for the well conditions.

(Check 320 for Further Data on Above)

Mason-Neilan Regulator Co.

Boston, Mass.

29 Silver Lane

In attendance

W. B. RAWSON, F. K. MORRISON, E. A. BIANCHI, R. A. ROCKWELL, D. J. CONDIT, C. O. MEYERS, E. L. GRAVES

Control valves, control-valve positioners, liquid-level controllers, pressure regulators.

Control-valve positioners: A completely new design, with several standard types for positioning direct or reverse superstructure diaphragm control valves or diaphragm motors. Also for split-range operation and motion transmission. Rugged mounting permits integral attachment to new Masoneilan valves, and by adapter clamp to all Masoneilan valves now in service. Force-balance principle of operation. Corrosion-resistant construction. Bellows and pilot are very easy to remove for servicing or conversion. Mechanism and adjustments are inside positioner case.

Liquid-level controllers — displacement type—with proportional reset action: Reset is available with all 12000 Series proportional controllers, including duplex controllers and controller transmitters. Entire reset mechanism is inside the instrument case. Resistance unit is accurately calibrated, and has a 10-in. scale graduated 0.2 to 100. Graduations are proportional to actual reset rates.

(Check 321 for Further Data on Above)

Maxim Silencer Co.

Hartford, Conn.

Block 7

Exhibiting with Continental Supply Co.

Block G

Exhibiting with Cooper-Bessemer Corp.

Block 1

Exhibiting with National Supply Co.

(Check 322 for Further Data on Above)

Mayhew Machine & Supply Co.

Dallas, Tex.

Block 107 and SE of Cafeteria

In attendance

HARRY M. PIGMAN

Three portable exploration drills: Mayhew Model 1000 all-purpose drill mounted on four-wheel-drive Ford truck, Model 600 mounted on Dodge Power Wagon, Model 200 mounted on tandem-axle trailer; portable drill supplies and accessory equipment.

Model 1000 all-purpose drill is a rugged and light-weight unit for drilling deep shot holes, water wells, and for shallow-depth coring. This is claimed to be the most versatile drill in the field today and a favorite among seismograph operators throughout the country.

Model 600 Power Wagon drill is a light-weight unit designed for maximum performance for use over difficult terrain and "off the road" areas.

Model 200 Bantam trailer-mounted drill is designed specifically for operating where mobility is the paramount problem and especially in inaccessible areas where conventional truck-mounted equipment cannot be used. This unit is powered with a 22-hp., air-cooled engine, thus adding to its versatility.

(Check 323 for Further Data on Above)

McCord Corp.

Detroit, Mich.

72-73 Oklahoma Building

In attendance

RALPH URSO, AL MOON, HARRY SHANK, EDWIN O. BODKIN

Force-feed mechanical lubricators, chemical pumps, gaskets, unit heaters.

(Check 324 for Further Data on Above)

McCullough Tool Co.

Los Angeles, Calif.

17-18 California Building

In attendance

O. J. McCULLOUGH, I. J. McCULLOUGH, W. C. ERWIN, C. A. MARION, D. J. HALL, BOB SMITH, RALPH LESSEIG, JACK WILEY.

Magna-Tector, surface recorder and pressure bomb, gun perforators, jet cutter, gun tester, electronic weight indicator, mechanical firing assemblies, electrical firing top assembly with sonic device.

McCullough electric service unit

Burrless bullets, deflecting bullets, complete electric service unit, collar finder, external drill-pipe cutter, mechanical long-knife casing cutter, double-acting rotary jar, rotary-releasing spear, rotary-releasing socket.

(Check 325 for Further Data on Above)

B. F. McDonald Co.

Houston, Tex.

54 Texas Building

In attendance

B. F. McDONALD, J. J. DELAHIDE, ED J. STANZEL, MARION BROWN

McDonald Model "T" aluminum safety hat, Model "P" plastic safety hat, fold-back hat shield, safety goggles, aluminum Dustfoe respirator, sand-blast helmet, Kanister first-aid kit, snake-bite kit, safety clothing.

McDonald gas masks, combustible gas indicator, combustible gas indicator for motor boats, mud-gas indicator, Murray plated tail lines, derrick safety belts, permissible flashlights, safety signs, safety insoles, safety gas cans.

(Check 326 for Further Data on Above)

McEvoy Co.

Houston, Tex.

21 Park Lane

In attendance

LAWRENCE WOOD, B. FRITZ KRAUSE

Well-head equipment, gate valve, gas-lift valve.

(Check 327 for Further Data on Above)

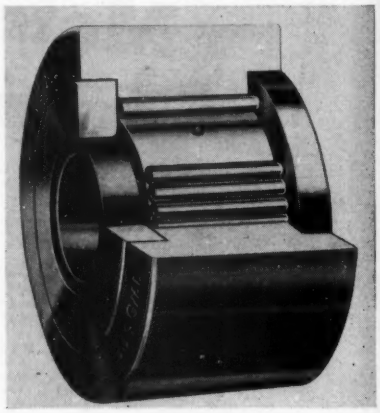
McGill Manufacturing Co., Inc., Bearing Division

Valparaiso, Ind.

40 Scientific and Technical Building

Displayed by Allied Bearings Co.

Several series of McGill Multirol full-type roller bearings, including the new CYR Series.



CYR Series bearing

(Check 328 for Further Data on Above)

McKissick Products Corp.

Tulsa, Okla.

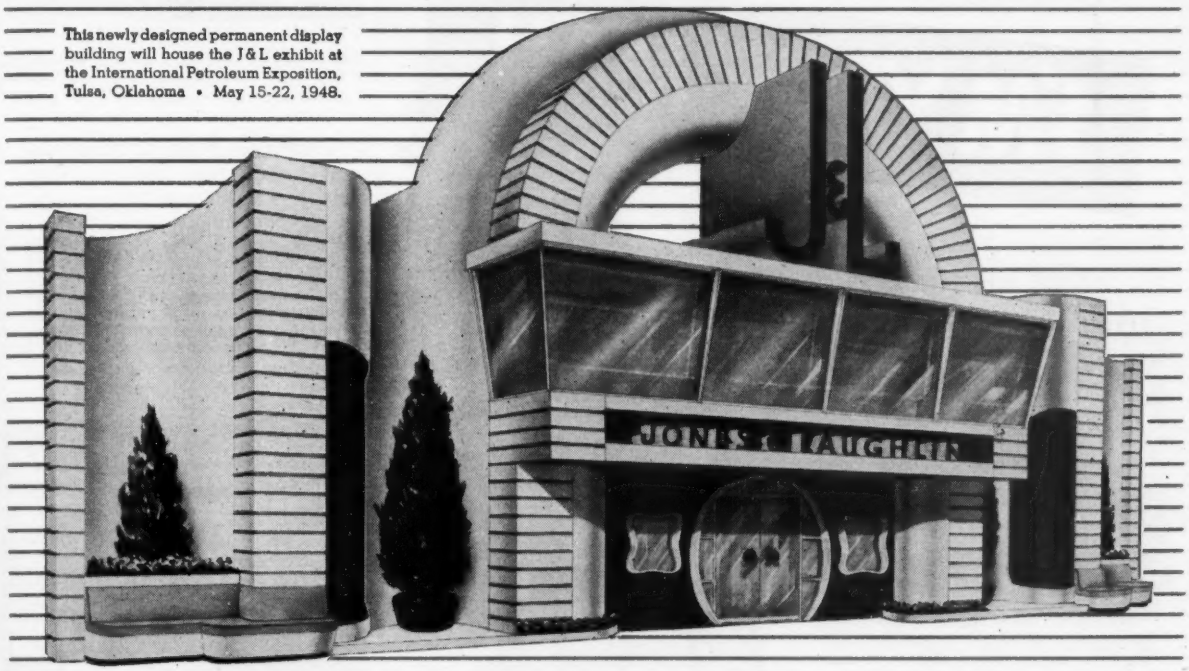
245-246 Oklahoma Building

In attendance

DON FATE, PAUL McGIVERN, W. H. McKISSICK

General line of McKissick blocks, with showings of the new series of traveling

One of the new McKissick traveling blocks



This newly designed permanent display building will house the J & L exhibit at the International Petroleum Exposition, Tulsa, Oklahoma • May 15-22, 1948.

TO THE PETROLEUM INDUSTRY—congratulations

—on the SILVER ANNIVERSARY of the International Petroleum Exposition

For more than half a century, J&L has proudly served the Oil Industry, and throughout this period we have witnessed your unceasing and aggressive program of technical development.

With a desire to improve continually our service to the Industry, J&L engineers are constantly working to make our old products better and to develop new ones for greater support to your efforts.

At this year's Oil Show you will see on display the most modern J&L products created to serve today's demand in—

DRILLING . . . PRODUCTION . . . REFINING . . . TRANSPORTATION

We will be there to welcome you to the Show and to the J&L exhibit. Make our new glass-enclosed balcony a spot to meet your friends. And of course if you want to talk steel, there's no better place.

J&L STEEL

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH, PENNSYLVANIA

JONES & LAUGHLIN SUPPLY COMPANY
TULSA, OKLAHOMA

I'M YOUR MAN

WITH AN AMAZING NEW RATCHET-OPERATED "VIC-GROOVER"!

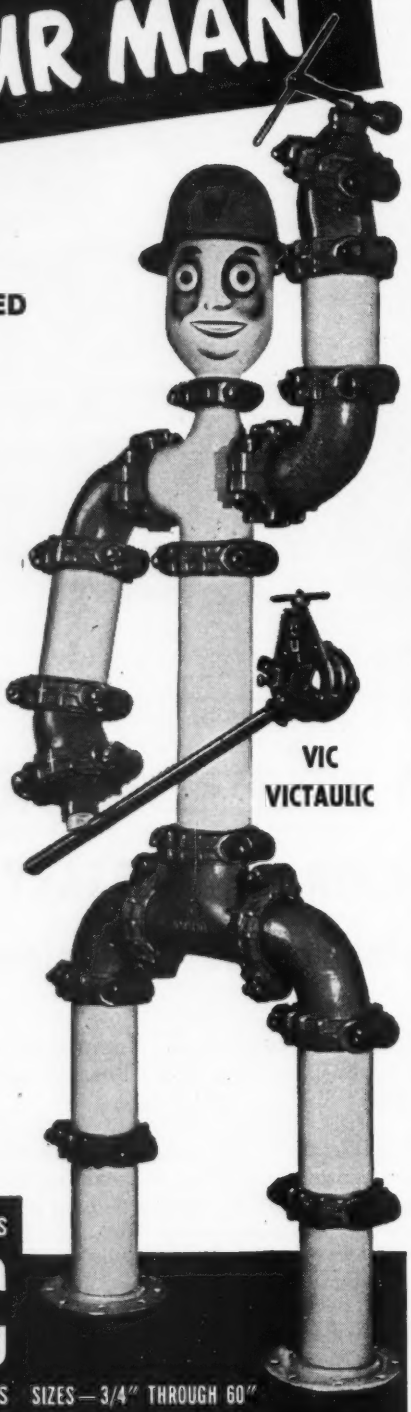
VIC-GROOVER is a newly developed tool for grooving the ends of pipe to take Victaulic Couplings... and you can get it today!

The handy, ratchet-operated VIC-GROOVER is light-weight for ease of carrying...and it makes its groove at exactly the right spot, to exactly the right depth, *automatically!*

COMPARE VIC-GROOVER with any regular pipe threader and you'll find it takes only half the effort to operate—*and half the time!*

Now it is easier than ever to make your piping system all-Victaulic easily, quickly, cheaply with VIC-GROOVER and Victaulic Couplings and Victaulic Full-Flow Elbows, Tees and other Fittings.

Write today for the "VIC-GROOVER Catalog"!



SELF-ALIGNING PIPE COUPLINGS

VICTAULIC

EFFICIENT FULL FLOW FITTINGS SIZES—3/4" THROUGH 60"

VICTAULIC COMPANY OF AMERICA

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Victaulic, Inc., 727 W. 7th St., Los Angeles 14, Calif.

Victaulic Company of Canada, Ltd., 200 Bay St., Toronto 1

For export outside U. S. and Canada: PIPECO Couplings and Fittings: Pipe Couplings, Inc., 30 Rockefeller Plaza, New York 20, N. Y.

Copyright 1948, by Victaulic Co. of America

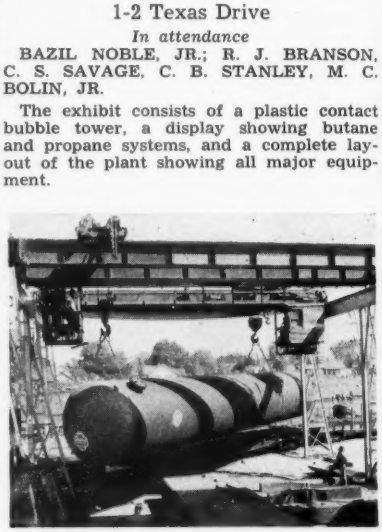
I.P.E. DIRECTORY

blocks one of which is the 60-in. traveling block. Also the new four-piece stuffing box.

(Check 329 for Further Data on Above)

McNamar Boiler & Tank Co.
Tulsa, Okla.
1-2 Texas Drive
In attendance
BAZIL NOBLE, JR.; R. J. BRANSON, C. S. SAVAGE, C. B. STANLEY, M. C. BOLIN, JR.

The exhibit consists of a plastic contact bubble tower, a display showing butane and propane systems, and a complete lay-out of the plant showing all major equipment.



A McNamar L.P.G. storage tank being loaded for rail shipment

(Check 330 for Further Data on Above)

Meriam Instrument Co.
Cleveland, Ohio
27 Scientific and Technical Building
(Check 331 for Further Data on Above)

Metal Goods Corp.
St. Louis, Mo.
194 Oklahoma Building
In attendance
RAY COX

Aluminum Co. of America—Aluminum.
American Brass Co.—Brass and copper.
American Rolling Mill Co.—Stainless steel.
International Nickel Co.—Monel, nickel, Inconel.
H. M. Harper Co.—Fastenings, nuts, bolts, studs, screws, washers.
Cooper Alloy Foundry Co.—Stainless steel valves and castings.
Mitchell-Rand Co.—RubberSeal.
Standard Tube Co.—Tubing.
Tri-Clover—Stainless steel valves and fittings.
Imperial Manufacturing Co.—Fittings and valves.
Parker—Fittings and valves.
Handy & Harman—Silver brazing alloys.
Shenango-Penn—Meehanite castings for pump sleeves.
Dragon Engineering Co.—Stainless and carbon steel needle valves.
Cerro de Pasco Co.—Cerro low-melting alloys.

(Check 332 for Further Data on Above)

Mid-Continent Airlines, Inc.
Tulsa, Okla.
Pan American Airways
Houston, Tex.
North of Office Building
In attendance
GEORGE A. STEVENS, GLENN ANTRIM

Facilities for making immediate confirma-

tion of domestic and foreign airline reservations and for the sale of airline tickets.
(Check 333 for Further Data on Above)

Mid-Continent Petroleum Corp.
Mid-Continent Pipe Line Co.
Tulsa, Okla.
19 Kansas Building

—Exhibit consists of an animated display with plastic cutouts and Kodachrome transparencies portraying various phases of the oil industry, such as automotive, farm, industry sales, and production and refining. A big photographic mural effect forms the background of the display.
(Check 334 for Further Data on Above)

Mid-Continent Supply Co.
Fort Worth, Tex.
Block 3

In attendance
K. W. DAVIS, D. H. THORNBURY, F. JOHN, M. F. CRIBBS, R. O. MOORE, T. M. CONE, H. D. POWELL, V. LEMAY, S. R. BILLINGSLEY, J. P. SCHWARTZ, C. D. HELM, D. S. SMITH, J. L. PEELER, H. E. MARTIN, J. L. WALTRIP, J. A. EMBRY, J. A. DAUGHERTY, W. I. WEST, F. J. SPURLOCK, R. M. FLIPPO, J. W. HOOVER, P. Z. HILLIARD, G. A. WEAD, S. R. CLINKSCALES, G. B. BLAIR, E. C. SCHAFER, R. L. MOYER, NICK CARTER, J. P. ALEXANDER, G. W. WALTERS, J. H. KENYON, C. M. FLEEMAN, T. P. TARWATER, A. T. SKAER, G. L. HUESTIS, R. L. McANALLY, G. A. DOW, DALE FULLER, J. F. RONE, C. J. KELLY, N. W. DAIL, M. C. SHAW, L. A. PYEATT, J. E. EVERROAD, C. V. GUINN, J. T. CALNON, P. H. DAILY, E. F. DAVIS, D. L. JOHNSTON, R. O. WEST, H. H. HOPE, L. R. MARSHALL, H. E. QUINN, R. E. RUTH, J. H. BRADLEY, R. E. ELMORE, E. G. ELLIS, R. A. HAYES, T. N. SHULTS, G. A. YOUNG, W. H. PARKER, J. E. SNODDY, H. N. LANDGRAVE, BYRON SNOW, R. G. FOX, C. D. HAWTHORNE.

Equipment Exhibited Outside Building

Allis-Chalmers Mfg. Co.—Mud-pump sheaves.

American Chain and Cable Co., Inc.—Trulay drilling line and wire rope.

American Iron & Machine Works Co.—Release valves, catline hook, hex kelly, back-up post, pipe-racking hook, tong-line weight boxes, long-sweep ells, long-sweep tees, long-sweep goosenecks, tool boxes, double-bowl overshot, special slips, sub, rathole assembly, mousehole assembly.

Baash-Ross Tool Co.—Roller kelly-drive bushing, long drill-pipe slips, safety clamp, needle-bearing tong-line hanger blocks, long drill-collar slip.

Baker Oil Tools—Portable hydraulic kelly and pipe straightener, whirler float shoe, male and female float collar, casing centralizer.

Byron Jackson Co.—Super triplex drilling hook, weldless elevator links, elevators, slip-type elevator, power slip, rotary and casing tongs, casing spider, catline grip, weight indicator, "Powair" combination spinning and makeup air-driven tong.

Cameron Iron Works, Inc.—Mud-pump gages, mud valves, water-pump pressure gage, low-pressure shear relief valve, double blowout preventers hookup.

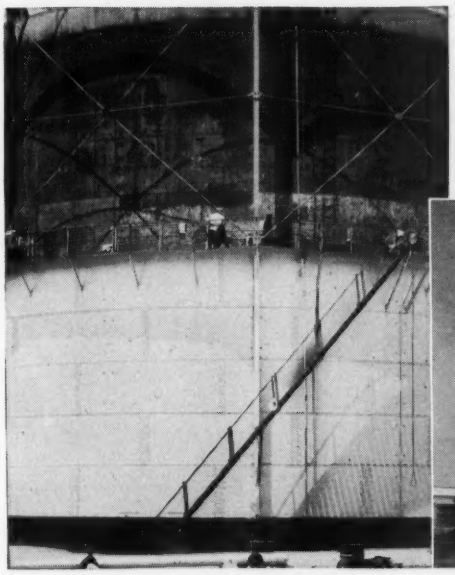
Construction Machinery Co.—Centrifugal pump with 1-hp. engine on base with carrying handle, centrifugal pump with Sheppard diesel engine mounted on two pneumatic-tired wheels, centrifugal pump with 9 hp. engine on two pneumatic-tired wheels, pump unit complete on two pneumatic-tired wheels.

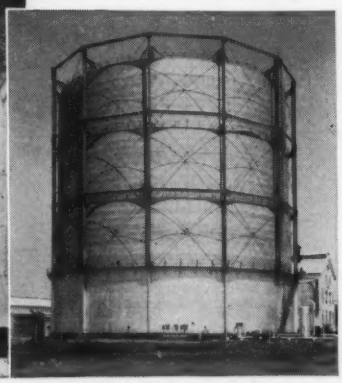
Deckard Mfg. Co.—Hinged galvanized finger board and monkey board.

Drilling Equipment Mfg. Co.—Standpipe clamps.

Elliott Mfg. Co.—Rotary-hose-to-swivel

Don't Let Rust and Corrosion Eat Away YOUR PROFITS!





Dum Dum for Metal being applied to the Gas Holder of the Pacific Gas and Electric Company.

The same Gas Holder completely finished with Dum Dum for Metal and protected for many years to come.

Dum Dum for metal gives long-lasting protection to METAL SURFACES

Dum Dum for Metal now offers the same long-term protection to metal surfaces that its famed companion product, Dum Dum for Masonoc, has been giving for years to all types of masonry structures. More than a paint, Dum Dum for Metal is thick, tough, elastic . . . designed specifically to protect metal surfaces against the hazards of weather-wear, industrial fumes and gases. Stops those deadly enemies of metal structures . . . rust and corrosion.

When you cover your vital metal structures with this attractive aluminum colored coating, you give added lustre to your plant, but best of all you cut maintenance costs . . . stop profit leaks. Write today for your copy of this important booklet describing Dum Dum for Metal.

MAIL COUPON TODAY

THE ARCO COMPANY
7301 BESSEMER AVENUE, CLEVELAND 4, OHIO

☐ Please send booklet describing advantages of Dum Dum for Metal.
☐ Please have sales representative call.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

SPECIFY ARCO
THE ARCO COMPANY
CLEVELAND • LOS ANGELES

safety chain, stand-pipe-ends safety chain.

Emsco Derrick and Equipment Co.—Unit pumpers, galvanized mud screens for slush pump suction, power slush pumps.

Gardner-Denver Co.—Slush-fitted water pump driven from auxiliary shaft, fitted water-pumping unit, slush pump for mud mixing powered.

Grant Oil Tools—Liner fuller.

Halliburton Oil Well Cementing Co.—Measuring device.

Hewitt Rubber Co.—Mud-pump suction hose with built-in nipples, vibrator hose with built-in male connections, rotary hose with male connections built in, water suction hose, steam hose.

Hunt Tool Co.—Regan crown, sheave traveler, catline attachment assembly, single gin-pole block.

Hutchison Engineering Works—Flo-Light vaporproof lighting hookup.

International Derrick & Equipment Co.—Swivel and rotary table.

Larkin Packer Co., Inc.—Geyser float shoe, float collar, casing centralizer, tubing head.

LeBus Rotary Tool Works—Tong pullback spring.

Lewis Manufacturing Co. — Combination derrick and monkey board belt, cable-reinforced monkey board belt.

Link Belt Co.—Dual mud screen.

Martin Decker Corp.—Wire-line anchor, weight indicator.

McKissick Products Corp.—Roller-bearing way fork pulleys.

Mid-Continent Supply Co. engineered and assembled—Special all-electric utility unit with Sheppard diesel generating unit, mud-pump drive V-belt guards, engine substructure with stairs and guard rails, 2,500-gal. diesel-fuel tank on 9-ft. adjustable substructure, Cummins diesel engine equipped for dual-fuel operation.

Mission Manufacturing Co. — One-piece drill-pipe slips, valve-seat puller.

Lee C. Moore Corp.—Special high-wind galvanized derrick, truss-type substructure for derrick.

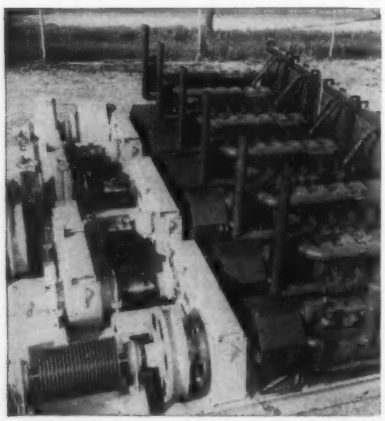
Owen Tool Co.—Tool chest and work bench, joint aid.

Patterson-Ballagh Corp.—Wire-line guides, long-type casing protectors, drill-pipe wiper, traveling-block bumper.

Reed Roller Bit Co.—Reed drill collars, full-hole pindown lifting sub.

R. H. Sheppard Co., Inc.—Power unit.

Texas Iron Works—Kelly safety cock.



Fawick Airflex clutch that works by compressed air which expands the rubber-and-fiber tube to engage the clutch with any degree of "grip" desired. When air is released the clutch disengages. This pneumatic tube clutch cuts down shock and vibration in drilling rigs, protects the entire machine against needless wear, prevents operator fatigue, gives perfect clutch control

Texas Rubber Specialty Corp.—Mud-Saver bucket.

Thermoid Co.—Wire-line turnbacks.

Thornhill Craver Co.—Mud-pump suction union, blanking plug, steel unions.

Unit Rig & Equipment Co.—Draw-works and transmission unit, spinning cathead, simple-friction breakout cathead, hydromatic brake and brake water tower, unit rig, double hydromatic brake.

Well Equipment Manufacturing Co.—Unions, mud-pump suction unions, steel rotary hose, swing joints.

Equipment Exhibited Inside Building

A.C.F. lubricated plug valves and lubricant.

Acco wire rope.

Bethlehem sucker rods.

Barbour Stockwell panel board.

C.M.C. pumps.

Cummins engines, fuel pump, and injector parts.

Fawick clutches.

Evans fans.

Harrisburg liners.

Igloo water cooler.

Ludlow valves.

Naylor pipe.

Siloo and Loosite petroleum solvents.

Stockham valves.

Sheppard diesel engines.

Tube turns.

Wahlberg-McCreary starters.

Mid-Continent circulating pump.

Mid-Continent relief valves.

(Check 335 for Further Data on Above)

Midwest Piping & Supply Co., Inc.

St. Louis, Mo.

Block 1

In attendance

J. L. JACOBSON, P. R. BECKER, W. F. KRAHN, L. H. NIEBLING, A. J. RAMSEY.

Fabricated piping assemblies, pipe ends, flanged joints, welded joints, carbon-steel butt-welding fittings, stainless and other alloy butt-welding fittings, pipe coils.

(Check 336 for Further Data on Above)

Midwest Printing Co.

Tulsa, Okla.

13 Scientific and Technical Building

Exhibiting with Ross-Martin Co.

(Check 337 for Further Data on Above)

Midwest X-Ray & Supply Co.

Tulsa, Okla.

24 Scientific and Technical Building

In attendance

MRS. DEWEY M. PARKER, DEWEY M. PARKER, FRANK BLACK

Exhibiting Picker-Waite X-ray diffraction unit.

(Check 338 for Further Data on Above)

Milwhite Co., Inc.

Houston, Tex.

13 Park Lane

In attendance

ROBERT BIERING, HENRY DAVID

A new product, "Kembreak," is available for laboratory test purposes. Kembreak has been universally successful as a "breakover" chemical in converting sodium-base mud systems to calcium-base mud systems. Material reduces water loss and viscosity after the breakover. Small quantities are added as drilling progresses, to keep mud in good condition. Drilling-mud cost comparisons on a number of typical Gulf Coast wells are available.

(Check 339 for Further Data on Above)

Mine Safety Appliances Co.

Pittsburgh, Pa.

48-49 Oklahoma Building

In attendance

H. W. RICHARD

Portable methane alarm; combustible gas analyzer with eight-way sampling valve; colorimetric carbon monoxide tester; benzol indicator; hydrogen sulfide detector; hose masks; tank gagers' masks; "Skullgard" safety hats; Chemox self-contained breathing apparatus; all-weather first-aid kits; snake bite kits; portable electric flood light; welding helmets; safety goggles and safety belts.

The portable methane alarm is designed for use at job sites where there is danger of accumulation of explosive mixtures of natural gas in air, and to warn of the presence of such mixtures before they become explosive.

A small Edison iron-alkaline battery similar to that used for operating miner's-cap lamps provides power. The alarm and battery form a single unit when ready for use and the total weight of both is less than 11 lb.

In operation the alarm is preset to operate at a given concentration of combustible gas ranging from 0.25 to 3 per cent and signals by the flashing of a lighted bulb when the surrounding atmosphere reaches that concentration. It will continue to flash until the concentration has been reduced and the detector has been reset by tilting it.

The portable methane alarm has been approved by the U. S. Bureau of Mines and among the uses contemplated are: transmission-line repair pits, repair jobs in the vicinity of recycling plants, and tank-cleaning operations.

(Check 340 for Further Data on Above)

Minneapolis-Moline Power Implement Co.

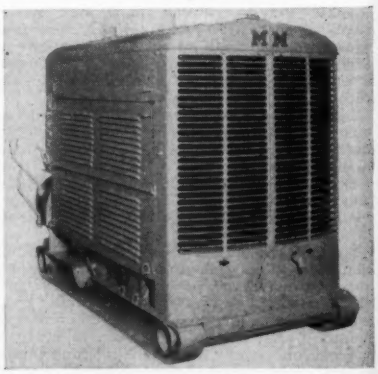
Minneapolis, Minn.

East of Scientific and Technical Building

In attendance

N. R. NESS, E. A. HENRY, E. R. RAVELING, F. N. LANGHAM, W. D. BARRY.

Oil-field power units.



Model 1210-12A oil-field power unit

(Check 341 for Further Data on Above)

Mission Manufacturing Co.

Houston, Tex.

91-93-118-120 Texas Building

In attendance

J. H. BARMISTER, CALVIN O. BELL, JR.; WM. F. BENNETT, R. W. CHAPMAN, C. W. FRYAR, A. E. HIGGINBOTHAM, F. S. MIMS, J. H. NOLEN, JR.; D. J. OLLRE, A. R. PARKER, L. I. ROBERSON,

21 YEARS "PUTTING PERMANENCE IN PIPE"

You can't laugh off 21 years experience in doing one job well . . . PUTTING PERMANENCE IN PIPE. We've coated and wrapped more than 150 million feet.

PIPE CLEANING, COATING AND WRAPPING TO ANY SPECIFICATION

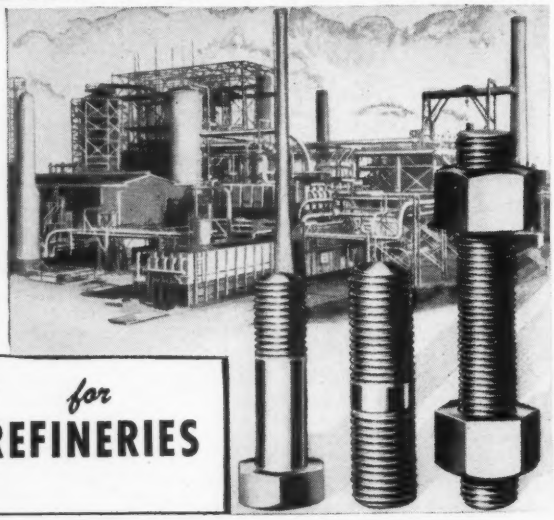
MAYES BROS.

INCORPORATED

HOUSTON, TEXAS

ERIE SPECIAL BOLTING FOR HEAVY MACHINERY

FOR over 30 years ERIE has specialized in the manufacture of *high quality bolting*. We use the very latest equipment for heat treating, machining, grinding and threading. We are certain that we can produce better bolting at a saving to you because we are specialists — send us your bolting specification for our estimate.



for REFINERIES

A DEPENDABLE SOURCE OF HIGH QUALITY BOLTING FOR RAILROADS, REFINERIES, DIESELS, FARM MACHINERY, EXCAVATING EQUIPMENT AND ALL TYPES OF HEAVY MACHINERY.

ERIE BOLT & NUT CO.
SUBSIDIARY OF BARIUM STEEL CORPORATION
ERIE, PA.
STUDS • BOLTS • NUTS ~ ~ ALLOYS • STAINLESS • CARBON • BRONZE

VIKINGS IN...

Substitutes ...OUT!

The substitute era of war-time shortages is drawing to a close. Once again Viking, the pump built **for** your job, is becoming more readily available.

A few are still on the shortage list. However, every effort is being made to vastly increase production of these models. The result is progressively earlier schedules.

Production is up — away up — higher than at any time in the company's record. But please don't forget, quality, at no time, has been sacrificed for higher production.

Buy Viking with assurance of the same dependable "gear within a gear" quality. First in the rotary pump field. Write today for free bulletin 47ST.

See Our Catalog In SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

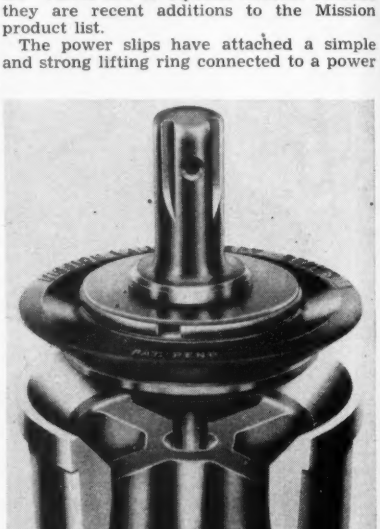
I.P.E. DIRECTORY

L. M. ROBERSON, O. E. RYAN, C. L. TURNER, J. E. YOUNG, M. C. DAVIS, CECIL CARDINAL, JEFF TUCKER, C. R. SUMMERS.

Slush pump valves, pistons, rods, gland packing, rotary slips, power-operated rotary, slips, swabs, plug valves, centrifugal pumps.

Among the many products displayed, the power-operated slips, "Satin Finish" piston rods, centrifugal pumps, and "Super Service" valves are of especial interest because they are recent additions to the Mission product list.

The power slips have attached a simple and strong lifting ring connected to a power



Mission slush-pump valve

cylinder of advanced design. Raising and lowering this ring by foot-operated control valve sets and releases the slips, and the lifting ring with its slips can be easily and quickly swung into place and stowed away by one man.

The new "Super Service" slush pump valve, made especially for use where pressures are extremely high, has a valve seat constructed with four deep-section cross-arms to distribute the load evenly throughout the seat. Large, file-hard striking surfaces minimize wear and a 35 per cent longer valve-stem guide reduces valve wobble.

The new centrifugal pump operates on the Sherzer hydraulic principle. The outstanding feature of this pump is the concentric casing which minimizes excessive turbulence and cavitation normally caused by the cut water in the conventional design.

The "File Hard" rods on display are satin finished to increase rod and packing wear and improve rod-to-piston fit, thereby reducing chance for washouts. The threads are also given a satin-smooth finish to prevent galling and make the rod stronger by reducing concentration at the thread roots.

(Check 342 for Further Data on Above)

Modern Engineering Co., Inc.
St. Louis, Mo.
32-33-34-35 Kansas Building

In attendance
J. D. TURNER, LLOYD LIPPENCOTT, HARRY SCOLLARD, JOHN J. KEANE

Meco welding and cutting equipment; Multi-Seat regulators, Safe-T-Chek regulators, Weldmaster torches, Cutmaster torches, Tripl-Flint lighters, Jiffy soldering and brazing outfits.

(Check 343 for Further Data on Above)

I.P.E. DIRECTORY

Moore Co.

Kansas City, Mo.

3 Scientific and Technical Building

In attendance

ROBERT D. MOORE, WHITNEY M. KERR

Cooling tower and heat-exchanger fans from 3 to 14 ft. in diameter.

To meet the need for efficient cooling-tower, heat-exchanger, and steam-condenser fans, the Moore Co. is producing a line of fans which are claimed to be the ultimate in dependability and versatility. The direct-drive fans from 3 to 8 ft. in diameter are powered with a special, slow-speed motor built into the hub of the unit. Larger fans from 8 to 24 ft. in diameter are made for mounting on speed reducers.

Moore units are constructed entirely of corrosion-resistant Monel, or are available in any other workable sheet metal for special applications. They are light in weight, compact and rugged in design, and efficient in operation.

(Check 344 for Further Data on Above)

Lee C. Moore Corp.

Tulsa, Okla.

65-66 Oklahoma Building

In attendance

H. J. WOOLSLAYER, O. H. DITTMER

140-ft. "K" type derrick on 11-ft. 5-in. high truss-type substructure, on display with Mid-Continent Supply Co.

189-ft. "K" type derrick, on display with National Supply Co.

192-ft. "K" type derrick with pedestal substructure and engine foundation.

136-ft. jackknife cantilever drilling mast on 8-ft. substructure, on display with Bethlehem Supply Co.

98-ft. jackknife cantilever drilling mast, on display with Brewster Co., Inc.

94-ft. "bi-speed" drilling mast (Unit Rig).

65-ft. automatic well-servicing mast (Unit Rig).

(Check 345 for Further Data on Above)

Moorlane Co.

Tulsa, Okla.

Block U

In attendance

WILLIAM D. MOORER

Moorlane Manufacturing Division: Moorlane pipe-line strainer, Moorlane meter run equipped with orifice flanges and plate and flow straightening vane, Moorlane mist extractor, Moorlane flange and special bolting and special pipe fabrication.

A.C.F. valves; Badger expansion joints; Belmont packing; Bonney Weldolets; Clayton Mark forged steel unions; P&H Zip-Life hoist, Johns-Manville gaskets; Mexico Refractories firebrick and specialties; Scovill nonferrous tubing; Taylor welding fittings and flanges; Chiksan swivel joints; Wright chain hoists; Yarway strainers.

The exhibit is housed in a special building which contains products of the manufacturing division, and special exhibits furnished by American Car & Foundry Co., Valve Division; E. B. Badger & Sons Co.; Belmont Packing & Rubber Co.; Bonney Forge & Tool Works; Clayton Mark Co.; Harnischfeger Corp.; Johns-Manville Sales Corp.; Mexico Refractories Co.; Scovill Manufacturing Co.; Taylor Forge & Pipe Works; Henry Vogt Machine Co.; Chiksan Co.; Wright Hoist Division, American Chain & Cable Co.; Yarnall-Waring Co.

(Check 346 for Further Data on Above)

Moran Furnace & Sheet Metal Co.

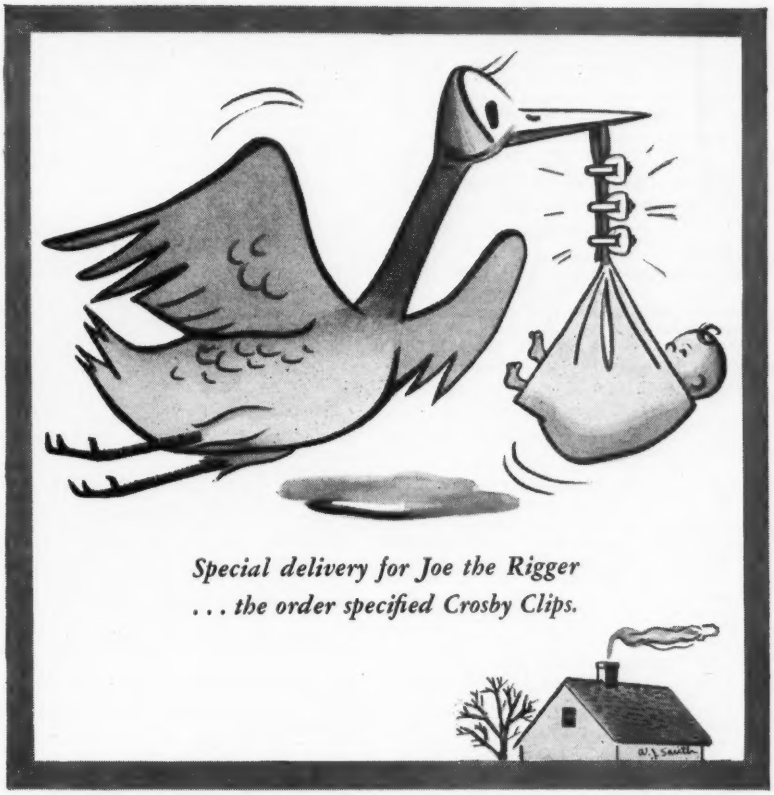
Tulsa, Okla.

East of Kansas Building

In attendance

W. O. MORAN, P. C. BURKE, E. L. HOUSTON

Moran portable meter houses, Peerless



Special delivery for Joe the Rigger . . . the order specified Crosby Clips.

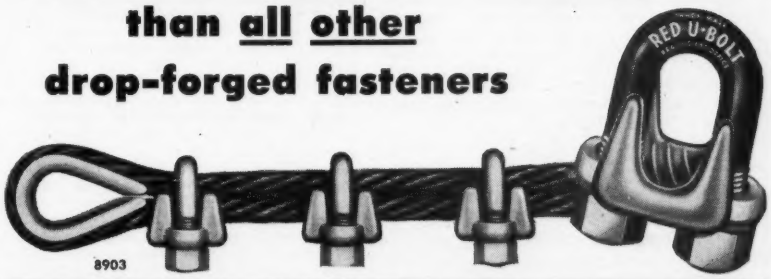
For any job where *safety* counts—CROSBY CLIPS! For rigging cranes and derricks . . . connecting swing cable . . . guying poles and towers—CROSBY CLIPS. They're hot dip galvanized, and drop-forged. High side wings and channel grooved base assure perfect lay of the rope. And CROSBY CLIPS hold with a *vise-tight* grip. Sizes for wire rope from 1/8 inch to 3 inch. Sold by distributors everywhere. Made only by AMERICAN HOIST and Derrick Co., St. Paul 1, Minnesota.

Industry uses more

CROSBY CLIPS

than all other

drop-forged fasteners



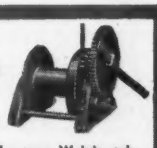
For Armored Construction . . . specify

AMERICAN BLOCKS AND SHEAVES

●A complete line of wire rope blocks—all types, all sizes, in capacities from 1½ to 250 tons. Thick steel side plates, heavy pins and axles. Ask for American equipment when ordering.

ONE MAN LIFTS 10,000 LBS. WITH THE

AMERICAN HANDIWINCH



●Gives one man the power of a crew. Weighs only 95 lbs. Handles lifting, loading and pulling jobs up to 5 tons. All steel construction. Ask your distributor.

weatherproof meter houses, Moran safety heater, Peerless weatherproof recording thermometer box, Peerless weatherproof Fulscope box, Moran safety starting wheel.

(Check 347 for Further Data on Above)

Morris Coupling & Clamp Co.

Ellwood City, Pa.

12 Park Lane

In attendance

H. D. NICKLIN, JOHN C. OLIVER, JR.; R. NEIL MORRIS

Morris gasket-sealed pipe couplings and Morris flexible steel band pipe repair clamps.

(Check 348 for Further Data on Above)

Morrison Bros. Co.

Dubuque, Iowa

58 California Building

In attendance

W. W. DAUNER, DUNCAN GLAB

New and improved line loading valve, line strainers, tank-wagon faucets, ground key barrel faucets, and other new and modern valves and fittings for the marketing industry.

(Check 349 for Further Data on Above)

Morse Chain Co.

Detroit, Mich.

15-16 Silver Lane

In attendance

F. M. HAWLEY, R. J. HOWISON, D. C. McNEELY, H. R. GREENLEY, I. A. HORTON.

Silent chain drives, roller chain drives, flexible couplings, friction clutches, overrunning clutches.

New products shown are new standard silent chains and sprockets, now manufactured to the silent chain industry standards, which standardization permits interchangeability of chains and sprockets of various manufacturers; the new Morse-Rockford friction clutches with the same over-center principle used in high-torque heavy-duty tractor and hoisting clutches incorporated in a small compact design; the new line of Morse-Formsprag over-running clutches which features a full complement, sprag construction for indexing, free-wheeling, and back-stopping applications.

In this animated display the center backboard contains a large silent chain "rocker" joint in continuous operation. This graphically displays Morse's less friction, longer wear, less noise feature in silent chain drives.

Other operating displays are Morse silent and roller chain drives, Morflex coupling drive shafts, Morse-Rockford friction clutches and Morse-Formsprag indexing clutches. Construction breakdowns and cutaways of roller chains and Morflex couplings are displayed along with other samples of Morse products.

(Check 350 for Further Data on Above)

Multi-Metal Wire Cloth Co., Inc.

New York, N. Y.

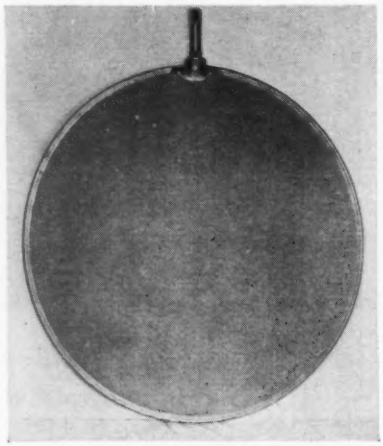
30-31 Kansas Building

In attendance

LLOYD M. HOPKINS, ALFRED STERN, JOSEPH WILKER, NICHOLAS GAUG, PHILIP BROAD.

Fabricated wire and filter-cloth units made especially for the petroleum industry, including: 12-ft. clay tower screen, vibrating screen cloths, filter leaves, catalyst screens, pipe-line strainers, grease strainers and cartridges, and other fabricated units.

A special feature of this exhibit is an actual clay tower screen, 12 ft. in diameter, and a backing screen, 11 ft. in diameter. Other fabricated wire and filter-cloth units on display include mud-screen cloths of various sizes, pipe-line strainers, backing screens, grease strainer and cartridges, filter leaves showing construction stages, retainer screens, filter units and other equipment made especially for the petroleum industry.



Filter Leaf ("Multi-leaf") having a chamber screen, an intermediate screen and a filter cloth covering

(Check 351 for Further Data on Above)

Murdock Tank & Mfg. Co.

Tulsa, Okla.

Outside NE Corner California Building

In attendance

F. L. MURDOCK, JACK JOHNSON

Emulsion Flo type treater, direct horizontal heater, oil and gas separator patented dual control valve.

(Check 352 for Further Data on Above)

Murphy Diesel Co.

Milwaukee, Wis.

Block A

Continuous oil-field power unit, and cutaways of Murphy diesel engine parts and assemblies.

For rotary rigs, cable tools, pipe-line pumping, electric power generation, and similar applications the company is showing single and multiple units in a wide range of sizes. Compact, moderate weight, heavy duty, they are true diesels of simple design and rugged construction. Fuel is injected directly into plain open combustion chambers by interchangeable unit fuel injectors. A quick-acting variable-speed hydraulic servo-type governor is standard equipment. Other features are: four overhead valves per cylinder; hardened alloy iron cylinder liners, water cooled full length; oil-coated cast-iron pistons; high tensile strength through bolts; copper lead-lined steel-backed precision bearings; forged-steel crankshaft with electrically hardened journals; forged-steel connecting rods; big-capacity lubricating oil and fuel filters; oil-bath air cleaners; single-lever operating control.

(Check 353 for Further Data on Above)

Frank W. Murphy, Manufacturer

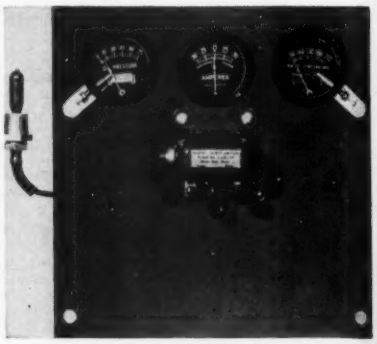
Tulsa, Okla.

26 California Building

In attendance

LEWIS CARLTON, R. E. BAGBY, F. W. MURPHY

Water-temperature and lube-oil-pressure



Model WH-B, front

safety switches for battery and magneto-ignition engines.

High and low-pressure and vacuum controls for engine-powered pumps.

(Check 354 for Further Data on Above)

Murray Tool & Supply Co.

Oklahoma City, Okla.

63-64 Oklahoma Building

In attendance

DON L. COLLINS, JACK A. BECKER, JOE WILKIE, JAMES A. OWEN, O. D. GREEN, T. C. ("Doc") LAMPE, JAMES A. DAVENPORT, PAUL A. KING, JOHN C. KING, R. G. WINANT.

Murkin water softener, Murray drill collars, Rex chain belts, Fitler cordage, Web Wilson products, general assortment of oil-field material.

The Murkin water softener delivers an abundance of soft water for drilling rigs, engines, or any other purpose where there is need for free-flowing soft water. It is constructed of heavy-gage welded steel with a strong bail to make it portable or it can be used as a permanent installation. A funnel-type head makes recharging easy. An exclusive feature is its new-type clamp cap.

Costly rig shutdowns and loss of engine efficiency are said to be avoided because the Murkin eliminates downtime due to scale, slime, and corrosion damage to radiators, connections, and pipes. Harmful solids are removed with a Murkin and it regenerates with plain salt.

The capacity of the Murkin ranges from 52,000 grain exchange with 25 lb. of salt to regenerate in the 4-cu.-ft. model, to 104,000 grain exchange with 48 lb. of salt to regenerate in the 8-cu.-ft. model. With a 10-grain hardness per gallon of water the 8-ft. size will provide up to 9,600 gal. of water between regenerations. The Murkin is available in 4, 6, or 8-cu.-ft. sizes.

(Check 355 for Further Data on Above)

Murray Rubber Co.

Houston, Tex.

16 California Building

In attendance

LYNNE MURRAY, JR.; FRANK CROW

Molded rubber products used by a large number of prominent oil-field-equipment manufacturers.

(Check 356 for Further Data on Above)

Muskogee Iron Works

Muskogee, Okla.

Block H

In attendance

NEAL M. EMMONS

Derricks and servicing hoists.

(Check 357 for Further Data on Above)

Nash Engineering Co.

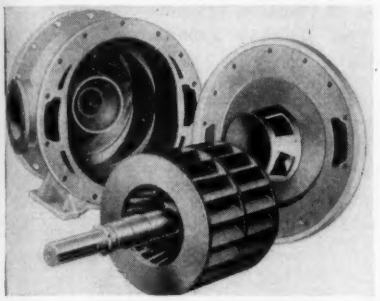
South Norwalk, Conn.

39-40-65-66 Kansas Building

In attendance

GEORGE B. WRIGHT, IRVING C. JENNINGS, EDWARD A. MEAD, HAROLD E. ADAMS, JOHN B. WRIGHT, FREDERICK W. GREEN, W. C. MYERS, F. M. BARTLETT.

Nash brand nonlubricated compressors, laboratory pumps, and centrifugal pumps of Pyrex glass.



Component parts of one of Nash's centrifugal pumps

The exhibit consists of a showing of various types of Nash brand pumps as recommended for the petroleum industries, all in actual operation. Engineers are present to discuss application of this equipment to the petroleum field.

(Check 358 for Further Data on Above)

Natasco Co.

Tulsa, Okla.

69-70 Scientific and Technical Building

In attendance

R. E. CLARK, D. L. KORN

Miniature tanks showing Natasco protective coatings, panels showing other protective coatings, and descriptive literature.

(Check 359 for Further Data on Above)

National Bank of Tulsa

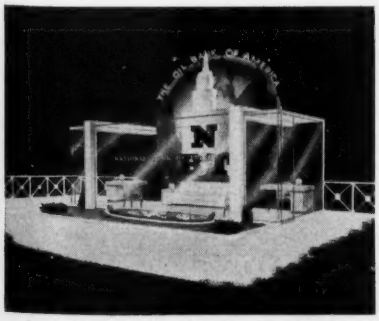
Tulsa, Okla.

Block H

In attendance

A. E. BRADSHAW, W. A. BROWNLEE, C. H. SWEET, FRANK M. SOWLE, FALKNER C. BROACH, C. T. EVERETT, CHRISTIAN SEGER, JR.; R. M. MOODY, P. D. HAYES, MARVIN MILLARD, KING BOSTOCK.

A garden spot in the forest of derricks,



N.B.T.'s booth is in striking contrast to most of the displays

machinery, and heavy equipment is this rectangular building of glass walls and roof which houses comfortable setees and lounge chairs in modern appointments. A small grass lawn, evergreen shrubs and a fish pool with lily pads give a spring greenery contrast to the concrete and metal exhibits on nearby locations.

(Check 360 for Further Data on Above)

National Carbide Corp.

New York, N. Y.

30 Oklahoma Building

In attendance

GEO. R. FULLER, JOHN W. McRARY, JR.

Carbide and associated products.

(Check 361 for Further Data on Above)

National Cylinder Gas Co.

Chicago, Ill.

95-96-97-98 Oklahoma Building

In attendance

MARVIN L. LEE, BEN E. WALCOTT, GEORGE BAUER

N.C.G. shape cutting machine, N.C.G. manifolds, Rego welding and cutting equipment, Torchweld welding and cutting equipment, Sureweld electric welders and electrodes, Torchweld acetylene generators, N.C.G. Ferro-Jet process for stainless-steel cutting.

Something new to look at, with action every minute.

If you are interested in machine flame cutting, you will be amazed at the ease with which N.C.G. shape-cutting machines can precision-cut intricate shapes.

If stainless steel is your problem, learn about the modern way to cut stainless—N.C.G.'s new Ferro-Jet process. There are numerous other N.C.G. products on display, any of which will be demonstrated.

(Check 362 for Further Data on Above)

National Foam System, Inc.

Philadelphia, Pa.

38 Kansas Building

In attendance

E. P. HUGHES, EMORY EYSMANS

National Aer-O-Foam nozzles, pump proportioner, foam chamber and foam makers; National Aer-O-Foam liquid; National Fomon foam generator powder, generators, nozzles; National Fomon foam charges for 2½-gal. extinguishers.

So-called chemical foam is produced by the reaction of certain chemicals properly stabilized. In mechanical foam, there is no chemical reaction and the foam is produced by aspirating a liquid composed of water and a foaming agent. National Foam System, Inc., makes both chemical and mechanical foams.

While mechanical foam has been in use in European countries, National developed Aer-O-Foam (mechanical foam) widely known during the war as "Navy Bean Soup."

National-Fomon dry powder chemicals and generators are also on display.

(Check 363 for Further Data on Above)

National Lead Co.

New York, N. Y.

50 Scientific and Technical Building

In attendance

GEORGE S. OWEN.

Owing to small space allotted, no equipment is being displayed. The exhibit highspots the company's "Dutch Boy" trade mark and displays a large mechanically operated "album" showing photos of lead products and oil-industry installations.

(Check 364 for Further Data on Above)

National Supply Co.

Toledo, Ohio

Block 1

In attendance

M. E. SWAIM, G. B. CUSHING, R. D. STOTTLEMYER, W. R. RYBURN, H. E. HEYWOOD, JR.; J. ADCOCK, G. C. MARKLEY, C. B. CARTER, JR.; E. C. CARTER, R. A. HECKEL, R. J. DONAGHOE, E. M. WINANS, O. O. TAYLOR, R. E. BELL, C. P. JENKINS, A. L. HARRINGTON, L. A. HARRIS, J. D. STEWART, H. W. HANNERS, R. C. ALLAN, JR.; E. G. BLAISDELL, W. T. CUSHING, JR.; L. H. DANIEL, JR.; W. C. MOODY, E. L. HARDER, J. F. TUCKER, JR.; A. E. FINCH, D. G. KNOX, C. R. SPENCER, W. H. BENNETT, D. C. NEELY, A. L. WIEGAND, B. E. CURRAN, C. L. BAINTER, C. SWARTSFAGER, N. B. BIGGERSTAFF, L. S. OUSTERHOUT, J. C. WOODS, J. B. STEPHENS, N. E. ALLEN, M. D. MUNDER, R. L. DAILEY, A. M. MILLER, F. D. GRAVES, K. J. DIGEL, K. O. HOEVEL.

The central feature of this exhibit is a new two-story building of modern design, completely air conditioned, with large seating capacity and unusual lighting features.

Around the outside of the building are grouped the newly developed additions to National's complete lines of drilling and producing machinery. This equipment is in operation, and ready access has been provided for visitors interested in engineering design and construction details. On one side of the building is a complete family of pumping units, all operating in unison, designed to meet any pumping requirement from the shallowest to the deepest well.

National also is showing the largest and smallest drilling rigs in its line, both of them new developments. The Type T-25 Consolidated rig features the use of a Twin-Disc torque converter and Fawick Airflex clutches. It has a nominal depth rating of 4,000 ft. using 4½-in. drill pipe, with 250 hp. input. A new pump drive suitable for use with the rig is on display and incorporates a power slush pump operated by an Ideal two-speed independent pump drive.

On one corner of the lot, a 189-ft. Lee C. Moore derrick has been erected containing National's latest contribution to ultradeep

Check It . . . Mail It . . .

IN connection with the "numbered" list of exhibits and exhibitors on these pages for the convenience of its readers the Journal has arranged a special "Check It" . . . Mail It" free information service on the 1948 Oil Exposition.

In this section will be found a perforated prepaid JUMBO free information card, which can be checked or circled against the corresponding "numbers" of the exhibitors listed here.

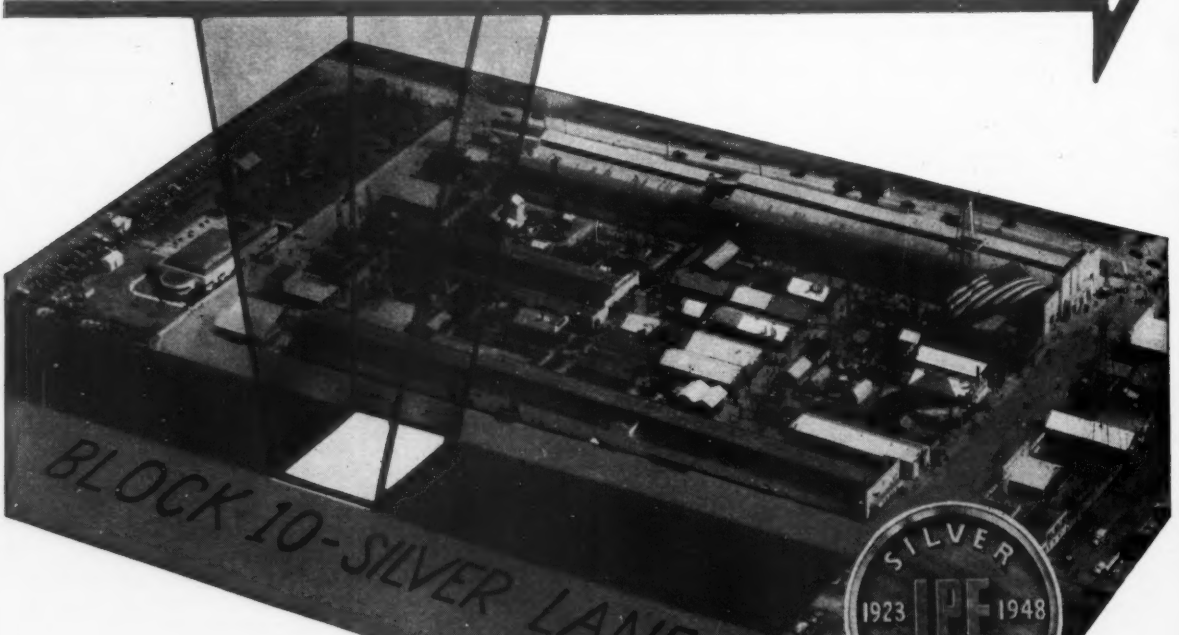
Whether or not you attend the International Petroleum Exposition in person, this Oil Exposition Issue of the Journal and the Journal's special "Check It . . . Mail It" Jumbo service card will bring you complete Oil Show coverage.

SEE BREWSTER Matched DRILLING EQUIPMENT AT THE

Don't miss the Brewster Exhibit of "Matched" Drilling Equipment at the International Petroleum Exposition. You'll see the units shown here—each reflecting Brewster's 38 years of experience in designing and building superior drilling equipment.

If you can't attend the Exposition, write today for free catalogs and specifications of the Brewster "Matched" Equipment that'll make your next drilling job faster, easier, and more profitable to you.

Here's a Preview

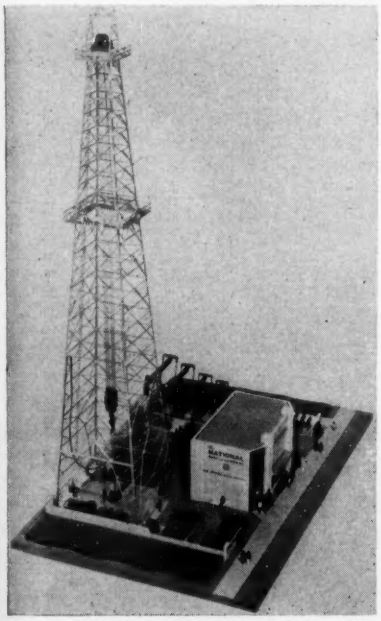


SOLD BY: APEX SUPPLY COMPANY • BOVAIRD SUPPLY COMPANY • INDUSTRIAL SUPPLY COMPANY
MURRAY BROOKS, INC. • REAMS SUPPLY COMPANY • IN CANADA: HALEY SUPPLY COMPANY
EXPORT SALES: BAIRD SUPPLY COMPANY, 420 Lexington Ave., New York 17, N. Y.

drilling, the new Ideal Type 160 consolidated rig, conservatively rated for 16,000-ft. drilling with 4½-in. drill pipe, incorporating many new features. A few of the many new features on the Type 160 draw works are Ideal air-operated catheads, rotary shaft drive attachment, dynamatic brake, automatic drilling control, and air-operated drum brakes.

The rig drive group furnishes power for the new Type E-700 8½-bore by 16-in. stroke power slush pump which will develop a 700 hydraulic horsepower output. The power end of this pump has been changed to meet the requirements of extremely heavy-duty service, and the display shows the new field-tested unitized pressure chamber arrangement which permits successful series operation of the largest power slush pumps.

A completely new heavy-duty line of derrick equipment is shown. Crown and traveling blocks permit 12-line reeving with 1½-in. diameter drilling line, the largest ever built by National. The traveling block and the new connector are rated at 540 tons capacity and the total capacity of the crown block is 630 tons. The drilling string is composed of an Ideal 5¼-in. by 54-ft. hexagon kelly, 5-in. Spang shrink-thread drill pipe, and an Ideal 6¼-in. by 30-ft. alloy steel rotary drill collar of improved design. The



Model of National Supply Co.'s exhibit

drill string is rotated by 20½-in. shaft-driven rotary table. On one side of the derrick floor the company exhibits its heaviest steam drilling equipment.

A representative line of high-pressure well-head equipment is featured as an outside display. A cutaway model demonstrates National's unique Type "B" pressure packing.

A working model of the company's most recent development for producing the deepest wells by their own energy—the Ideal plunger lift with cycle controller—is also on display outside the building.

Inside National's building are displays of pump parts, tubular products, drill collars, sucker rods, and a large and attractive institutional exhibit, emphasizing the manufacturing and distribution facilities of the company.

One of the major inside displays is that of Spang-Chalfant's new double seal shrink thread drill pipe and tool joints. Behind a panel of six enlarged photographs, showing methods of replacing tool joints in the field are two figures of men which move back and forth along the panel, synchronized to a voice recording explaining each operation.

On display, for the first time, are Spang special-purpose plastic-coated drill pipe and tubing, developed to resist corrosion fatigue in drilling operations, and for use in wells where corrosion is a major problem. In this tubular exhibit is a display of Spang seamless extreme line casing which is used in most deep wells animated to emphasize the salient features of the casing. There also is an exhibit showing the complete line of National's Ideal drill collars and kellys.

One of the largest displays is an exhibit of Ideal slush-pump fluid end parts. The display is illuminated and animated and is devoted to piston rods, pistons, liners, liner packing, valves, and seats.

Nearby is a comprehensive exhibit of National's complete line of sucker rods, an action display demonstrating the strength of these rods.

(Check 365 for Further Data on Above)

National Tank Co.

Tulsa, Okla.

Block S

In attendance

CLARENCE O. GLASGOW

Oil-water emulsion treaters, oil and gas separators, lease storage tanks, heaters, dehydrator, and combination hookups of the above items.

(Check 366 for Further Data on Above)

National Technical Laboratories

South Pasadena, Calif.

79 Scientific and Technical Building

In attendance

T. F. HERRING

Displayed by W. H. Curtin & Co. are Beckman instruments including spectrophotometers, portable pH meters, and radiation meters.

(Check 367 for Further Data on Above)

Naylor Pipe Co.

Chicago, Ill.

Mid-Continent Supply Co. Building

Naylor Lock-Seam Spiralweld surface casing; Naylor Lock-Seam Spiralweld line pipe; Naylor heavy duty Wedgelock coupling.

(Check 368 for Further Data on Above)

Nelson Electric Manufacturing Co.

Tulsa, Okla.

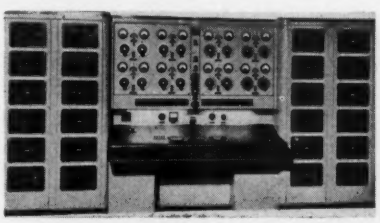
168 Oklahoma Building

In attendance

H. A. NORBERG, DICK RAY, TOM FEURT, R. S. TERHUNE, CURTIS OAKES

Instrument panel, generator control panel, oil-field motor starter, explosionproof motor starter, explosionproof circuit breaker.

Miscellaneous equipment: control station, time delay push button station, insulated pipe-line flange.



Nelson Electric instrument panel

(Check 369 for Further Data on Above)

New Bedford Cordage Co.

New York, N. Y.

Block 7

In attendance

G. W. HUNDINGER

"New Bedford" manila catlines, manila spinning lines, soft ropes, derrick lines, drilling cables, plain laid rope.

An animated "Tom Cat" emphasizes the toughness of the company's catlines, and the display also shows the raw fibers and manila heads from which ropes are made.

(Check 370 for Further Data on Above)

New Deal Specialty Co.

Okmulgee, Okla.

Block 107

In attendance

BEN COLCHENSKY, J. D. ROBERTS, G. T. BYNUM, M. R. PINKERTON

Butler Type casing spiders, Type casing elevators, tubing spiders, tubing elevators, deep-well deadline anchor clamps, pipe-cleaning machines, hydraulic pipe straighteners, wire-line drilling clamps.

The deep-well deadline anchor clamp is exhibited for the first time.

(Check 371 for Further Data on Above)

New Departure Division, General Motors Corp.

Bristol, Conn.

Block 10

In attendance

FRANK J. MILLER, LEROY A. HILLMAN, H. WM. POCHYLA, AUBREY E. BISHOP, CARLETON B. BECKWITH.

A complete range of ball bearings used by the petroleum industry and equipment manufacturers, including heavy-duty single-row and double-row bearings, sealed, shielded, and snap ring ball bearings, and jewel-type ball bearings.

The display includes the New Departure bouncing ball machine in which hardened steel balls drop onto hardened steel anvils, pass through a revolving bearing, and bounce back into the machine. Although this is a mechanical process, the rapidity with which the balls bounce gives the effect that magic or electronics are employed.

Also on display is a scale working model of one of the massive machines used in upset forging of the bearing rings. In this interesting diorama, miniature men go through all of the motions of the actual operations in perfect timing with the machine.

(Check 372 for Further Data on Above)

Nomads

Next to I.P.E. Office

In attendance

J. A. CLARK, H. M. COOLEY, T. G. MARTIN, STEWARD D. BECKLEY, C. B. McDONALD, HAROLD E. COOPER, BRAD MILLS, and a rotating committee of Nomads including several who speak Spanish and French.

This is "International House" for the Exposition, where foreign visitors and members of the Nomads make their headquarters and sign the visitors' register. The building is kept open by a committee of Nomads from the Dallas, Houston, Los Angeles, New York, and Tulsa chapters, acting as hosts to visitors from abroad.

(Check 373 for Further Data on Above)

Nordberg Manufacturing Co.

Milwaukee, Wis.

24 Silver Lane

In attendance

A. S. TELFER, H. M. CAHILL

Diesel engines.

(Check 374 for Further Data on Above)

to owners of "CARDWELL

Controlled Hardness

1948
550-600 BRINNELL
(54-58 ROCKWELL C)

1946
330-375
BRINNELL

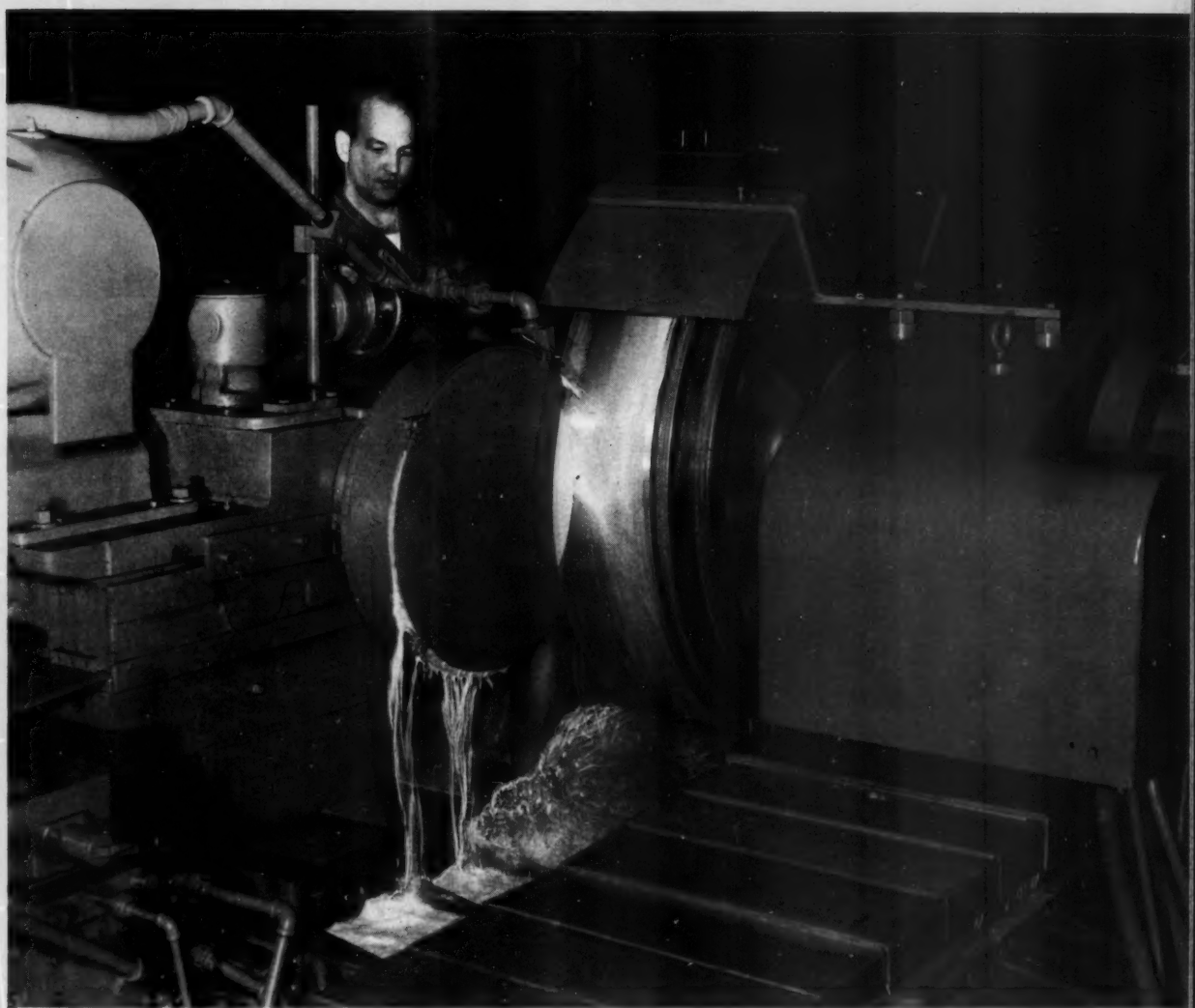
1936
260-270
BRINNELL

Lower right: Model O twin-engine draw works drilling a 7,200-foot well in Oklahoma.

Lower left: Model S single engine draw works with air controls. Note compact design.

Drilling Rigs...

New "Cardwell" brake flanges will save at least $5,000 in maintenance costs and down-time during the life of the rig.



Brake flanges that are too hard to wear out are now standard equipment on all "Cardwell" rigs. All new rigs are equipped with 550-600 Brinnell (54-58 Rockwell C) brake flanges. All service flanges ordered for old "Cardwell" rigs in the field will be the new flanges at no increase in price.

"Cardwell" actually spent over $100,000.00, including special machines, in development and research to produce these new flanges for "Cardwell" drilling and servicing rigs. Remember you pay no more for these long-lasting brake flanges.

The new "Cardwell" brake flange reduces brake block wear 50% because the glass-hard surface eliminates the fine cuttings usually found when softer flanges are used.

CARDWELL ALL STEEL

THIS TRADE MARK INSURES HIGHEST QUALITY AT LOWEST PRICE

CARDWELL MFG. CO. INC.

P. O. Drawer 2001 . . . Long Distance Telephones 128 – 129 – 130
Cable Address: "ALL STEEL," Wichita — "CARDSTEEL," New York
Wichita, Kansas, U. S. A.

WHEN IT'S A "CARDWELL," THERE'S NO EQUAL IN QUALITY

I.P.E. DIRECTORY

Norma-Hoffman Bearing Corp.
Stamford, Conn.
7-8 Texas Building
Display of "Precision" bearings
(Check 375 for Further Data on Above)

W. C. Norris, Manufacturer, Inc.
Tulsa, Okla.
Block X
In attendance
G. W. DAVIDSON, J. W. BOWEN, P. J. DONNELLEY, C. T. FAIR, J. A. GETTY, JR.; J. E. GILES, D. P. HAGAMAN, A. A. HARDY, R. V. MANIS, JR.; ARTHUR MILLER, JR.; MARVIN L. PARKER, JACK C. SCHAFF, C. B. SCHOFIELD, C. L. SNELLING, CLIFF TEEL, W. C. TOLLESON.

Norris horizontal hydraulic pumper for two or more wells, Norris vertical hydraulic pumper for a single well, Norris Blue Ribbon working barrels of hard bronze and steel.

Flow beans, stuffing boxes, roller rod-line carriers, wrist pins and wrist-pin connections, sub tubing couplings, polished-rod couplings, sucker-rod couplings, braden heads, tubing heads, underpull pumping jacks, bell cranks.

Adaptor nipples, boiler nipples, casing nipples, swaged nipples, tubing nipples, bull plugs, welding reducers, caps.

Drill rod, polished rods, sucker rods, pull rods, rod-line swings, miscellaneous pumping equipment, turnbuckles, working-barrel valves, balls and seats, valve pullers, sucker-rod wrenches.

Two outstanding features of the exhibit are the new horizontal hydraulic pumper for producing two or more wells and the Norris vertical hydraulic pumper for a single well. These two products are in operation and an engineer is in charge to demonstrate and point out all operating advantages. Along with these, the complete line of Norris quality oil-well pumping equipment and tubular products is displayed.

(Check 376 for Further Data on Above)

Wm. W. Nugent & Co., Inc.
171-172 Oklahoma Building
In attendance
F. L. TOWNSEND, J. VOCELKA
DALLAS S. DEEM

Oiling devices, oiling and filtering systems, gravity oil filters, pressure oil filters, sight feed valves, sight overflows and compression union pipe fittings.

(Check 377 for Further Data on Above)

Oakite Products, Inc.
New York, N. Y.
22-23 Texas Building
In attendance
V. BOWES, V. L. BALTZELL, S. C. SHANK, J. R. WHYTE, S. F. HAGLER, R. HAM, L. W. CUNNINGHAM, H. T. HANCOCK, T. C. ZIMMERMAN.

A striking display of the line of specialized, automatic cleaning equipment.

Items featured include: (1) the Oakite solution-lifting steam gun, known for its ability to remove dirt, oil, grease, grime, etc., from equipment of every size, shape, and description; (2) the Oakite vapor-cleaning unit, a portable steam-generating unit that makes possible simultaneous, two-gun steam-cleaning action away from regular steam supply source, as in on-location cleaning of slush pumps, engines, derricks, drilling rigs, tank wagons, trucks, tractors, etc.; and (3) the Oakite interior tank-cleaning unit, Model 324, of special interest to owners and handlers of tank car fleets, inasmuch as it permits safe, thorough, automatic cleaning of tank-car interiors, in conjunction with a recommended Oakite detergent, in approximately 2 hours' time.

(Check 378 for Further Data on Above)

Walter O'Bannon Co.
Tulsa, Okla.
104-105 Texas Building
In attendance
WALTER O'BANNON, JR.; LESLIE E. BATES, JR.

Rod-type and tubing-type oil-well pumps and parts, oil-well pump accessories, sucker-rod sockets, rod hooks, rod and small tubing elevators, tubing tongs, tubing spiders, "S" links, polished-rod clamps, polished-rod tops.

The display includes full-sized rod and tubing pumps with outer parts cut away to permit the inside working parts to be seen in their normal operating position.

A feature of the pump exhibit is the ⅝-in. bore Stripwell rod pump designed to increase production from stripper wells. The pump is sturdily constructed and uses 1¾-in. balls and seats in both upper and lower valves.

Seventeen different pump plungers are exhibited, illustrating the different sealing means which are available to meet the particular needs of each producer.

Exhibit of well-servicing tools includes "Cut-Away" rod sockets, rod hooks, rod elevators, tubing tongs and the O'Bannon automatic tubing spider.

(Check 379 for Further Data on Above)

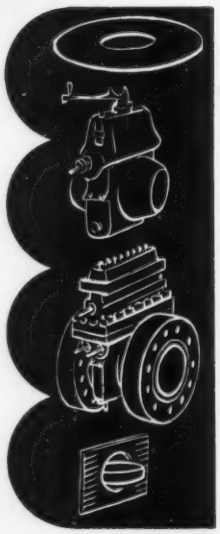
DANIEL First

1st Inexpensive Removable Wafer Plate

1st "Junior" Type Orifice Fitting

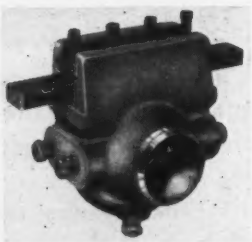
1st Hi-pressure "Senior" Orifice Fitting

1st Non-metalic "Dual-Seal"



. . . and now!

DANIEL introduces the SIMPLEX



0 to 1000 P.S.I.G.
Socket Weld for field installation
Welding neck for shop fabrication
Inexpensive removable wafer plate
Out modes conventional orifice flanges

INEXPENSIVE — SAVES TIME — LABOR — MONEY

DANIEL ORIFICE FITTING CO.
LOS ANGELES • TULSA • FORT WORTH • HOUSTON
Agents in Principal Cities

WHY GARRISON *Power Steering?*

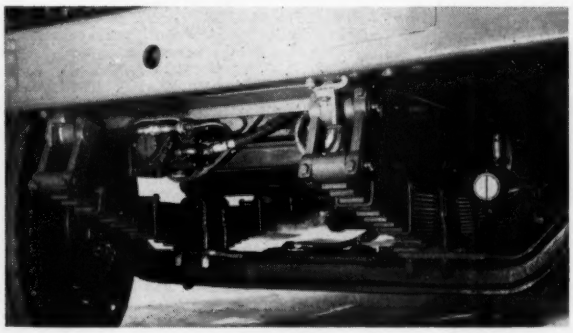
4 ADVANTAGES TO USERS OF GARRISON HYDRAULIC STEERING BOOSTERS . . .

☆ INCREASE FLEXIBILITY OF TRUCKS — ease steering effort.

★ SAFETY — Eliminate "wheel-fight" and kickback — Protection against front tire blowout.

★ PERFORMANCE—Adequate power to turn wheels without effort at standstill if required.

★ REDUCE FRONT AXLE AND STEERING GEAR WEAR — All shock load taken in steering booster.



(Garrison Power Steering Installation on International W-6564)

★ VALVE-IN-DRAG-LINK provides direct mechanical connection.

★ POWER CYLINDER mounted on axle to provide thrust and take shock load on tie-rod.

★ EASE OF INSTALLATION — No alteration of truck to install.

★ FACTORY OR FIELD INSTALLATION Kits for all makes heavy duty TRUCKS, TRUCK CRANES and WHEEL TRACTORS.

For full information contact your factory, dealer, or

Garrison MANUFACTURING CO.
1506 SANTA FE AVE., LOS ANGELES 21, CALIF.

Thicknesses from 1/64 to 1/4 inches. Sheets 40 x 40 inches and larger.

Feeding mix for GARLOCK 7021 into sheeters at Garlock factory.

For Extreme Pressures

AND HIGH TEMPERATURES

GARLOCK 7021 Compressed Asbestos Sheet Packing was specially developed by Garlock for severe oil service. It is strong and tough, yet resilient. Gaskets cut from GARLOCK 7021 give superior service on pipe lines and other equipment handling gasoline, oil, gas or steam at extreme pressures and high temperatures.

THE GARLOCK PACKING COMPANY
PALMYRA, N. Y.

Tulsa, Okla. Houston, Tex.
Los Angeles, Calif.

SEE US AT SPACES 59 AND 60, TEXAS BLDG.
International Petroleum Exposition — Tulsa — May 15-22

GARLOCK 7021
COMPRESSED ASBESTOS SHEET PACKING

I.P.E. DIRECTORY

Ohio Injector Co.
Wadsworth, Ohio

219-220-231-232 Oklahoma Building

In attendance

WAYNE YOUNG, P. M. ARNALL, H. G. DOSTER, E. A. YOUNG, W. C. DAVIS, W. G. SHEPARD, M. W. PAULY, A. A. KRUSE, PAUL E. BANKS, E. G. BLAYLOCK.

Cast-steel pipe-line valves, cast-steel valves, forged-steel valves, stainless-steel valves, iron valves, and bronze valves.

(Check 380 for Further Data on Above)

The Oil and Gas Journal
Tulsa, Okla.

Block 5

In attendance

P. C. LAUINGER, C. O. WILLSON, KENNETH B. BARNES, HENRY D. RALPH, PAUL REED, W. L. NELSON, LYNN M. NICHOLS, NEIL WILLIAMS, CHARLES J. DEEGAN, R. B. TUTTLE, D. H. STORMONT, C. DUDLEY JOHNSTON, TED A. ARMSTRONG, JOHN C. CASPER, J. W. CLOTE, L. S. McCASLIN, JR.; GEORGE WEBER, WAYNE RIVES, MITCHELL TUCKER, ALFRED MILTON JONES, C. R. FARMER, E. S. KLAPPENBACH, CHARLES A. WARDLEY, JOHN D. REILLY, JOHN M. SPEARS, DONALD O. HANSON, S. H. ROURKE, H. B. PIGMAN, J. PARKER HOLLAND.

(Check 381 for Further Data on Above)

Ohio Steel Foundry Co.
Springfield, Ohio

78-79 Texas Building

In attendance

T. H. HARVEY, J. D. HAGANS, J. G. PALMER, I. D. CLINE, W. K. RIDER, H. R. CURTIS.

Return bends and other refinery fittings, carbon steel castings—pressure type; alloy tube supports, and other specialties for refinery service.

(Check 382 for Further Data on Above)

Oil Center Tool Co.
Houston, Tex.

11-12 Oklahoma Building

In attendance

J. H. MORAN, J. E. EDWARDS, FRITZ RICHARD, J. E. ECKEL, C. B. WRIGHT, O. F. JOLLY.

Well heads, christmas trees, flow controls, high-pressure fittings, blowout preventers.

The exhibit shows a composite well-head and christmas-tree unit showing the new C-19 long-string casing head, T-16-OU tubing head, WA-4 tubing seal, JE flow control and other novel improvements. Necessary parts are transparent and show passage of colored fluid through the regular route of production from the tubing through the tree. Models of well head equipment, blowout preventers, and the O.C.T. line of precision-thread fittings also are exhibited.

(Check 383 for Further Data on Above)

Oil Well Supply Co.
Dallas, Tex.

Block 2

In attendance

M. F. HAZEL, K. B. WINSTEAD, R. L. ARMSTRONG, MARK BARKHURST, WM. HELDMAR, R. R. McAFEE, M. E. NICKLIN, W. F. PARKER, P. H. SHEPHERD, V. J. WATERS.

New equipment never before shown: Witte Model "E" horizontal gas-gasoline engine, No. 580 seven-sheave crown block, No. 480 six-sheave traveling block, RT-21W rotary-drilling unit, Witte oil-field light plant, gas-booster unit (11-in. stroke, two stage).

Equipment introduced during the past 12 months: No. 64-B draw works, No. 500 dual-engine drive with two G.M. Series 71 twin 6 diesel engines, No. 200-P power slush pump, No. 500-GM power drive with QM Quad engine, Witte Model "C" horizontal gas-gasoline engine, Witte Model "CD" diesel engine, Lorain Type "L" engine, brass polished-rod jackets, No. 6P-HD power pump, No. 46-P triplex plunger pump, 128-A portable derrick.

Other equipment of widespread interest also exhibited includes: Draw works, triple-engine drive, "Oilwell"—Brantly hydraulic feed control, Witte gas-gasoline engine, 66-in. streamline traveling blocks, oil-bath swivels, oil-bath rotary with tachometer, power slush pump, twin-crank pumping units, cable-tool drilling unit, Wilson-Snyder switch valve, subsurface pumps, sucker rods, packers, double-reduction gears, stuffing boxes, tubing hanger, combination head, polished rods.

(Check 384 for Further Data on Above)

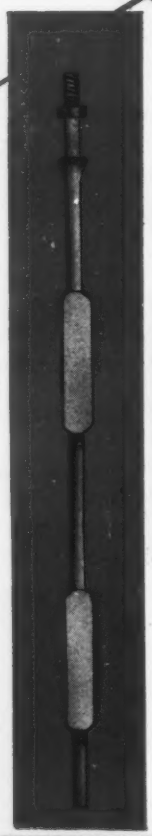
Oklahoma Oxygen Co.
Tulsa, Okla.

189 Oklahoma Building

Exhibiting with Big Three Welding Equipment Co.

(Check 385 for Further Data on Above)

Look AT THE SAVINGS YOU MAKE with HUBER PARAFFIN SCRAPERS



	WELL No. 1		WELL No. 2	
	Year Before Install.	Year After Install.	Year Before Install.	Year After Install.
Paraffin Expense				
Bbls. Oil Prod.	$1347.00	—0—	$ 767	—0—
Paraffin Cost per Bbl.	9859	9046	9978	8502
	$ .137	—0—	$ .077	—0—
Expense Reduction				
First Yr's Operation	$1347		$ 767	
Installation Cost	401		401	
NET SAVING	$ 946		$ 366	

ROTATING HEAD

This patented head automatically rotates the rod string a fraction of a turn on each reciprocation, so that the scrapers, which clear the tubing by a fraction of an inch, wipe the wall free of paraffin.

Here are the savings a major company made in one year with Huber Scrapers in two of their pumping wells. Well No. 1 saved more than twice the cost of the scrapers. Well No. 2 saved about 90% of their cost. Huber scrapers completely eliminated all paraffin removal expense.

It will pay you to install Huber Scrapers in your pumping wells where paraffin is accumulating. Install them now and end this costly paraffin trouble.

HUBER

J. M. HUBER CORPORATION

BOX 831 BORGER, TEXAS

I.P.E. DIRECTORY

Oklahoma Steel Castings Co., Inc.

47-48 Texas Building

In attendance

E. M. NEWLAND, B. E. GRAY, S. J. MOORE

Steel castings descriptive of products manufactured by the company.

(Check 386 for Further Data on Above)

Oklahoma Rig & Supply Co.

Muskogee, Okla.

4 Oklahoma Building

In attendance

S. D. SLAUGHTER

Exhibiting hickory tool handles and wirebound containers.

(Check 387 for Further Data on Above)

Oliver United Filters, Inc.

New York, N. Y.

4 Park Lane

In attendance

G. E. SHAW, T. G. LANEY, J. K. BLAKELEY

No equipment is displayed. Exhibit consists of charts and photographs showing the application of the various Oliver United filters in the refinery and petrochemical plant. Of particular interest is the work of Oliver Precoat filters on contact clays and on slop-oil reclamation.

(Check 388 for Further Data on Above)

D. W. Onan & Sons, Inc.

Minneapolis, Minn.

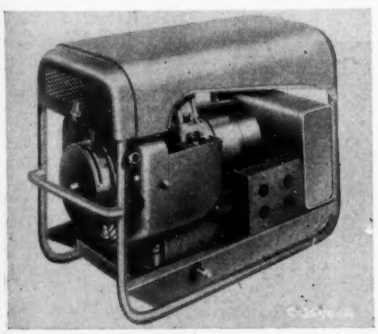
Block T

In attendance

LARRY LOCKHART, TONY MIDDLETON

Electric generating plants, gasoline and diesel driven; air-cooled gasoline engines; marine air-cooled gasoline engines.

A new 3,000-watt, d.c., heavy-duty electric plant for oil-field service is shown. This unit generates 115-volt current, is completely equipped for portable service, and is powered by an Onan CK two-cylinder, four-cycle, air-cooled engine modified for extra long-life service in the oil fields. The unit can also be equipped with gas-gasoline carburetion.



Electric generating unit

(Check 389 for Further Data on Above)

Orbit Valve Co.

Tulsa, Okla.

33-34-35 Texas Building

In attendance

J. (Dock) MUMFORD, R. G. COLE, HENRY C. SAWYER, L. E. WALLACE, JACK H. HANCOCK, GERALD G. LOWE, DELL TAYLOR, CLAUDE BROWN, D. W. BLEVANS.

Orbit drilling valves, Orbit forged steel flow-line valves (oil country rating), Orbit forged steel intermediate-temperature valves (refinery rating), oil savers, oil-saver adapters (for cable-tool drilling).

Forged steel flow-line valves (oil-country rating) are available in sizes 2 to 4-in. inclusive, flanged and screwed ends and test pressures 1,000 lb. to 10,000 lb., and offer the advantages of a welded bonnet construction, plastic stem packing, full round opening, and friction-free seating plus easy operation. Because of Orbit valves' resilient seating arrangement, expansion and contraction caused by climatic changes will not cause the seating surfaces to lock or seize to cause seepage leaks. No lubricant is required to effect a seal.

Forged steel intermediate temperature valves (refinery rating) are of the same general construction as the Orbit forged steel flow-line valves of the same size and test pressure. There are some exceptions to this general construction, as follows: The stem and seat in the body and other parts of the valve that might be damaged by corrosion are made of various types of stainless steel. Plastic packing is used, which has a maximum temperature rating of 375° F. These valves are also available in 150-lb. series.

(Check 390 for Further Data on Above)

Oster Manufacturing Co.

Cleveland, Ohio

240 Oklahoma Building

In attendance

H. C. GARDNER, L. M. GARDNER.

Pipe and bolt-threading machines.

(Check 391 for Further Data on Above)

EXCLUSIVE MID-CONTINENT REPRESENTATIVES: Hunt Tool Company, P. O. Box 1436, Houston, Texas

EXCLUSIVE EXPORT REPRESENTATIVES: Hunt Export Company, 19 Rector Street, New York City, N. Y. • Avda Pte. R. Saenz, Pena 832, Buenos Aires, Argentina

I.P.E. DIRECTORY

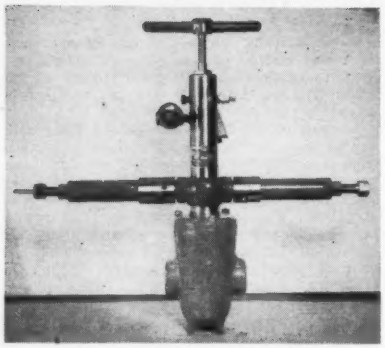
Ospina-Racines, E.
Bogota, Colombia, S. A.
215 Oklahoma Building
(Check 392 for Further Data on Above)

Otis Pressure Control, Inc.
Dallas, Tex.
6-7 Silver Lane
In attendance
H. C. OTIS, I. A. MILLER, H. C. LAIRD, L. M. WILHOIT, HARRY B. XCHRAMM, TURNER GARWOOD, H. D. JOHNSTON, CURTIS KIZER, TEMPLE P. HOFFER, DON TAYLOR.

Otis surface safety valve; removable tubing safety valves; removable bottom-hole regulators; removable bottom-hole chokes; tubing closing and testing tools; removable side door chokes; removable pack-off anchors; tubing perforators and tubing cutters; wire-line tools and equipment; tubing calipers; and two-zone pumps.

Actual demonstration is made of the new Otis surface safety valve, a heavy-duty, self-contained, pressure-operated full-opening gate valve equipped with either a high or low-pressure pilot, or both. Operating pressure can be supplied either by the line in which the safety valve is installed, or it can be furnished through a connection from an outside source, but no electrical connections or remote control mechanisms are required.

(Check 393 for Further Data on Above)



New Otis surface safety valve

Owens-Corning Fiberglas Corp.
Toledo, Ohio
97-98-119-120-121-122 Kansas Building
In attendance
FRANK L. MYERS, C. L. ROWLEY, G. O. HARTZELL, J. F. BALL, J. L. NEAL, C. C. CALLAWAY, JR., H. S. NEIPP, BEN S. WRIGHT, MYRON LEIDY, R. E. TRUMBULL, E. W. DARLING, JR.

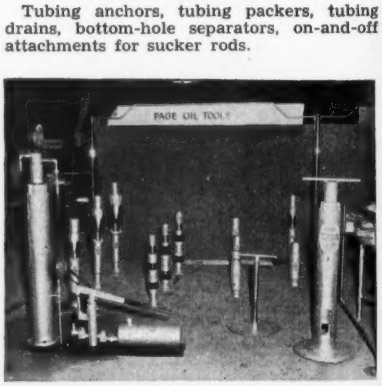
Underground pipe wrap; industrial insulation for high-temperature installations, boilers, breechings, stacks, duct work, pipe covering; insulation for oil tank cars; insulation for electric motors, transformers, cables, and wiring; building insulation; roofing insulation; noncombustible fabrics and drapery material; Fiberglas coated cloth.

One of the major features of this exhibit is a diorama depicting the application and advantages of Fiberglas underground pipe wrap.

(Check 394 for Further Data on Above)

Page Oil Tools, Inc.
Long Beach, Calif.
13 Silver Lane
In attendance
JOHN S. PAGE, JOHN S. PAGE, JR.; (MRS.) EULAH PAGE

Tubing anchors, tubing packers, tubing drains, bottom-hole separators, on-and-off attachments for sucker rods.

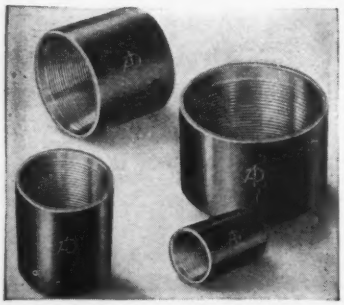


Page Oil Tools, Inc., display
(Check 395 for Further Data on Above)

Pacific Pumps, Inc.
Dresser Industries, Inc.
Huntington Park, Calif.
Block 11
In attendance
ROY A. DUNBAR, RALPH C. VAN MATRE, D. E. HARDER, G. F. GRAHAM, ORIS ORTON, L. W. YARBERRY, C. C. MILLER, A. R. WEIS, E. J. WEIS, M. F. ECHER, F. P. APPLEGATE, A. F. CANADA, W. R. CARLSON.

Oil-well pumps.

The company is introducing its new Type



HARRISBURG
Seamless
Steel

PIPE COUPLINGS

MADE TO A. P. I. SPECIFICATIONS

Harrisburg's twenty-six years' experience and carefully controlled inspection result in a coupling of a superior type. The accuracy of the threads insures a perfect joint. Millions of Harrisburg Couplings are in use in all branches of the petroleum industry. We make our own steel.

HARRISBURG MAKES: Alloy and Carbon Steels; Seamless Steel CO_2 Liquefiers, Pipe Couplings, High Pressure Gas Cylinders; Drop and Hollow Forgings; Forged Steel Pipe Flanges; LP Gas Cylinders.

Send for a copy of the Harrisburg Seamless Steel Coupling Catalog

HARRISBURG REPRESENTATIVES:
HENRY H. PARIS DISTRIBUTOR, INC.
Houston, Texas
W. C. NORRIS MFG. CO.
Tulsa, Oklahoma
Distribution in principal cities on the Pacific Coast

HARRISBURG STEEL CORPORATION
HARRISBURG, PENNSYLVANIA

F pipe-line pump, and descriptive bulletins are available. In addition, cutaway models showing construction details of the Pacific Type SVC centrifugal process pump and the Type WY centrifugal vertical pump are on display. A working model of a Pacific oil-well plunger pump is also a feature of the exhibit. Bulletins and other information are available covering the entire Pacific line as well as the specific items on display.

(Check 396 for Further Data on Above)

Palmer Thermometers, Inc.
Cincinnati, Ohio
60-61 Scientific and Technical Building

In attendance
DOUGLAS H. HITT, FRANK W. PROBST.

Red-reading-mercury, industrial, indicating, and laboratory-type thermometers; mercury-actuated dial-indicating thermometer, mercury-actuated recording thermometer.

The exhibit shows how Palmer thermometers are made to show mercury as red. A strip of red glass is embodied into the glass tube to one side of the mercury column. Mercury, being a natural mirror, reflects the red color and is magnified to show as a wide strip.

(Check 397 for Further Data on Above)

Henry H. Paris Distributor, Inc.
Houston, Tex.
20-21-22 California Building

In attendance
HENRY H. PARIS, O. C. THOMAS, P. B. DIXON, W. C. THOMAS, C. A. CARROLL

Forge steel flanges, seamless casing couplings, liquefiers, air and gas cylinders, fusible plugs, all-steel gas burners, seamless-steel welding fittings, seamless-steel pipe couplings.

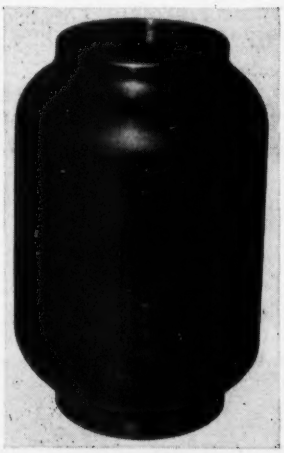
The display includes products of coexhibitors, Harrisburg Steel Corp., Wheeling Machine Products Co., Dresser Manufacturing Division, Volcano Burner Co.

(Check 398 for Further Data on Above)

Patterson-Ballagh Division Byron Jackson Co.
Los Angeles, Calif.
22-27 Oklahoma Building

In attendance
J. C. BALLAGH, J. B. MERRITT, J. P. MAGOFFIN

Crown-block bumpers, swivel-bail bump-



Patterson-Ballagh streamlined casing protector

Thousands of installations and the outstanding results obtained in controlled tests have amply attested the values of FARRIS Safety Relief Valve design.

Certified tests have proved the consistent superior capacity, the tightness—the result of the 2½ to 1 guiding ratio, assuring full lift and positive reseating. Maintenance men testify to the ease and economy of replacing the loose disc—with a minimum of down time, with no special tools, without the usual problems of trick lapping, difficult machining and factory supervision for adjustment.

Other features include: double universal joints in alignment spool—long, low-stressed, protected loading spring—full certified capacity discharge assured by nozzle throat and high disc lift—spring chamber kept vapor-tight with guide seals—viscous materials kept fluid by internal coil. In all, 15 FARRIS "Exclusive" features provide the design and quality that have made FARRIS performance which has built complete *acceptance.*

SEND FOR YOUR COPY
New FARRIS Catalog just out.

If you are piping corrosive liquids, vapors or gas, investigate this and other FARRIS Valves.

See Us at the Oil Show in Tulsa—Booth 32

FARRIS ENGINEERING CORP.
412 Commercial Ave.
Palisades Park, N. J.

Farris

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SAFETY and RELIEF VALVES

FARRIS keeps pace with advancing power and process engineering

REPUBLIC'S WHO'S WHO IN OIL EQUIPMENT

A few of the leading oil equipment manufacturers whose products are available through Republic's 51 sales and service points in Arkansas, Colorado, Illinois, Indiana, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas . . . Abegg & Reinhold Company, Ltd. . . . Alemite Division (Stewart Warner Corp.) . . . American Iron & Machine Works . . . American Manufacturing Company . . . American Rolling Mill Company . . . American Chain and Cable Company . . . American Fork & Hoe Company . . . Baash-Ross Tool Company . . . Babcock & Wilcox Tube Company . . . Baker Oil Tools, Inc. . . . Band-It Company . . . Beaver Pipe Tools, Inc. . . . Black, Sivalls & Bryson . . . Byron Jackson Company . . . Cameron Iron Works, Inc. . . . Chain Belt Company . . . Chicago Nipple Manufacturing Co. . . . Chicago Pneumatic Tool Company . . . Clark Bros. Company, Inc. . . . Columbus McKinnon Chain Corp. . . . Crescent Tool Company . . . W. H. Curtin & Company . . . Darling Valve & Manufacturing Co. . . . Dresser Manufacturing Company . . . E. I. Du Pont de Nemours & Company . . . Henry Disston & Sons Co. . . . Eagle Picher Company . . . Fairbanks, Morse & Company . . . Fisher Governor Company . . . Foster Cat Head Company . . . Gardner-Denver Co. . . . Gates Rubber Company . . . The B. F. Goodrich Co. . . . H. P. Gott Manufacturing Co. . . . Graybar Electric Company . . . The Guiberson Corporation . . . Hinderliter Tool Co. . . . Chas. N. Hough Manufacturing Co. . . . Hughes Tool Company . . . Inferno Company . . . International Derrick & Equipment Co. . . . The S. M. Jones Company . . . Ladish Drop Forge Company . . . Larkin Packer Company . . . Link-Belt Company . . . Lubrikup Company . . . The Lufkin Rule Company . . . McKissick Products Corporation . . . McNeely

SEE THESE DISTINGUISHED LINES OF EQUIPMENT AT THE INTERNATIONAL PETROLEUM EXPOSITION AND VISIT "YOUR SUPPLY STORE" HEADQUARTERS — Booths 99-100-101-116-117-118 — KANSAS BUILDING.

XUM

best of everything in products and service

Materials Company . . . Manning, Maxwell & Moore, Inc. . . . F. E. Meyers & Bros. Company . . . Mission Manufacturing Company . . . Walter O'Bannon Company . . . Oil Center Tool Company . . . Oil Tool Manufacturing Company . . . D. W. Onan & Son . . . Orifice Valve Company . . . Pacific Pump Company . . . Patterson-Ballagh Corporation . . . Pennsylvania Flexible Metal Tubing Co. . . . Parid Division of Treolite Co. . . . Rector Well Equipment Company . . . Reed Roller Bit Company . . . Republic Steel Corporation . . . The Ridge Tool Company . . . Rockwood Sprinkler Company . . . Shaffer Tool Works . . . R. W. & P. B. Skinner . . . Socony Paint Products Co. . . . Spang Chalfant Division . . . Standco Brake Lining Company . . . Stanley Tools . . . Sterling Packing & Gasket Co. . . . Stockham Pipe Fittings Co. . . . Thornhill-Craver Company . . . The Tnemec Company . . . The Toledo Pipe Thread Machine Co. . . . Tube Turns, Inc. . . . Unit Rig & Equipment Co. . . . Victaulic Company of America . . . W-K-M Company . . . Wall Rope Works . . . Walworth Company . . . Watson - Stillman Company . . . Waukesha Motor Company . . . Wilson Manufacturing Co., Inc. . . . J. H. Williams & Company . . . Wolverine Tube Division . . . Wyatt Metal & Boiler Works . . . Yale & Towne Manufacturing Co.

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Republic Supply COMPANY

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REPUBLIC STEEL

XUM

ers, traveling-block bumpers, stand-pipe clamp, pipe-wiper cutter, mud guns, pipe lifter, derrick floor mats, mud-gun nozzles, mud-gun platform, casing protectors, thread protectors.

Protector-remover tools; dead-line-stabilizer refills; Kelly wiper refills; stand-pipe clamp refills; swivel-bail bumper refills; traveling-block bumper refills; wire-line guide refills; wire-line wiper refills; dead-line stabilizers; drill-pipe stabilizers; deep-well swabs; drill-pipe wipers, flat; drill-pipe wipers, streamlined; drill-pipe wipers, window; wire-line wipers; sucker-rod protectors; tubing plastic protectors; sucker-rod wipers.

(Check 399 for Further Data on Above)

Parkersburg Rig & Reel Co.
Parkersburg, W. Va.
Corner Mid-Continent and Oklahoma Drives
In attendance
C. B. MORTON

Deep well pneumatic pumper with 120-in. stroke, 456,000 lb. torque, 40,000 beam load; Parkersburg prefabricated steel building; 10 hp. chain-driven pumper; heating tube for Parkersburg heaters and treaters; display of method of operation of new series of Parkersburg emulsion treaters; models of Parkersburg pumpers (1-in.-to-foot scale); substructures and 188 ft., 125-m.p.h. wind load steel derrick.

One of the outstanding exhibits is the 120-in. long-stroke deep-well pumper which is pneumatically counterbalanced and which is operated under various conditions while carrying a polished-rod load of 12 to 15,000 lb.

The steel building display is also of particular interest in that it shows the adaptability of Parkersburg buildings to various jobs.

(Check 400 for Further Data on Above)

Payne Furnace Co.,
Dresser Industries, Inc.
Block 11

(Check 401 for Further Data on Above)

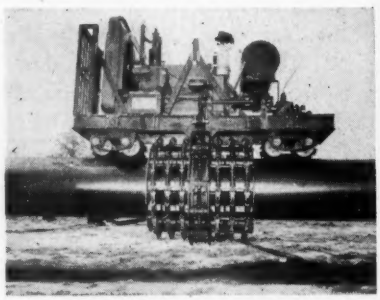
Peerless Manufacturing Co.
Dallas, Tex.
216 Oklahoma Building
In attendance
E. O. HALTOM, R. B. OWENS, T. M. JARMON, JR.; FRANK NORRIS, ED WARREN, MRS. MARY H. WHITE.

Peerless mist-extractor unit; Peerless automatic trap; Peerless meter-type odorizer; Peerless automatic engine cutoff.

(Check 402 for Further Data on Above)

Perrault Brothers, Inc.
Tulsa, Okla.
Block 102
In attendance
LEWIS PERRAULT, R. E. SHACKELFORD

Pipe-cleaning and priming machines, pipe-coating and wrapping machines, pipe-bending machines, tar-heating kettles, Perrault glass pipe wrap, and miscellaneous pipe line supplies and equipment.



Perrault pipe-cleaning machine equipped with the new rubber crawlers

(Check 403 for Further Data on Above)

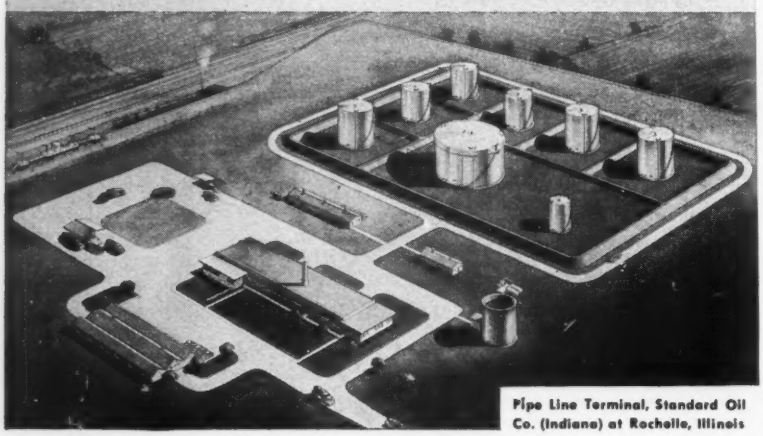
Petroleo Interamericano
Tulsa, Okla.
Block 5
In attendance
P. C. LAUINGER, OSCAR B. IRIZARRY, C. O. WILLSON, JORGE SARMIENTO, E. E. BARBERII, D. H. STORMONT, T. A. ARMSTRONG, L. S. McCASLIN, JR.; K. B. BARNES, LYNN M. NICHOLS, R. B. TUTTLE, HENRY D. RALPH, GEORGE WEBER, PAUL REED, C. DUDLEY JOHNSTON, WAYNE RIVES, MITCHELL TUCKER, ALFRED MILTON JONES, C. R. FARMER, E. S. KLAPPENBACH, CHARLES A. WARDLEY, JOHN D. REILLY, JOHN M. SPEARS, DONALD O. HANSON, S. H. ROURKE, H. B. PIGMAN, J. PARKER HOLLAND.

(Check 404 for Further Data on Above)

Petro-Chem Development Co.
New York, N. Y.
Block 9
In attendance
T. B. LEECH

A complete Petro-Chem Iso-Flow furnace with a section cut out so that its design

SPECIALIZED SERVICE
TO THE PETROLEUM INDUSTRY



Pipe Line Terminal, Standard Oil Co. (Indiana) at Rochelle, Illinois

Designed and Engineered by

LUNDSTRUM & SKUBIC, INC.

Architects and Engineers

Organized with a wide general background of successful experience, from its inception the firm of Lundstrum & Skubic, Inc., has specialized in service to the Petroleum Industry. J. E. Lundstrum and L. F. Skubic who head the firm, know the methods and the requirements of the industry through their own personal activities, and they have been especially successful in designing and engineering plants, structures and piping related to the distribution and marketing of refined oils and gasolines. This work comprises complete pipe line and marine terminals, bulk stations, tank fields, piping and pipe manifolds, tank car loading docks, metered truck loading docks, office buildings, pump houses, garages, machine shops, service stations, and similar facilities. All architectural, mechanical, electrical and piping design is handled by architects and engineers specializing in these various fields.

The services of this specialized organization are now available to supplement and extend the work of the engineering divisions of all oil companies. When you employ these services you have an organization with the necessary engineering facilities and one which has proved the value of its experience. It is an organization which knows your problems and how to solve them, small enough to give personal service and to give you the knowledge and attention of the principals themselves.

Your inquiry for details and further information will receive immediate attention and a personal call can be arranged at your convenience.

LUNDSTRUM & SKUBIC, INC.
ARCHITECTS AND ENGINEERS
564 MONADNOCK BUILDING • CHICAGO 4, ILLINOIS

and construction are self-evident. Surrounding this actual furnace are large photographs with detailed information and many installation photos.

Montage showing uses of Petro-Chem product
(Check 405 for Further Data on Above)

Petroleum Engineer
Dallas, Tex.
Block 2
(Check 406 for Further Data on Above)

Petroleum Engineering, Inc.
Houston, Tex.
222 Oklahoma Building
In attendance
PAUL M. RAIGORODSKY, W. A. STOVER
EDWIN NORMAN

Exhibit consists of photographs, pamphlets, and other descriptive literature pertaining to the construction of natural-gasoline plants, cycling plants, and the equipment used in these industries.
(Check 407 for Further Data on Above)

Petroleum Equipment, Inc.
Tulsa, Okla.
80 Scientific and Technical Building
In attendance
ROBERT W. DUDEN, T. N. WORD,
J. HOWARD KINSLOW, C. LEWIS MIMS

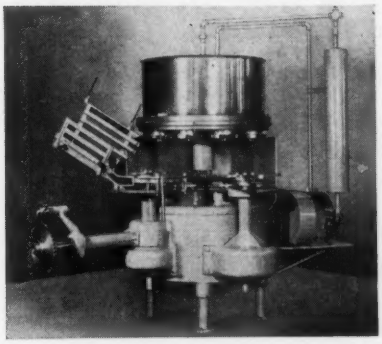
No equipment exhibited. Booth consists of lounge facilities.
(Check 408 for Further Data on Above)

Petroleum Equipment Publishing Co.
New York, N. Y.
94 Oklahoma Building
(Check 409 for Further Data on Above)

Petroleum Publishing Co.
Tulsa, Okla.
Block 5
The Oil and Gas Journal.
Petroleo Interamericano
(Check 410 for Further Data on Above)

Pfaudler Co.
Rochester, N. Y.
52-53 Kansas Building
In attendance
GEORGE F. KROHA.

A 200-gal. glass-lined reaction kettle, 2-in. glass-lined centrifugal pump, rotary vacuum can-filling machine.
(Check 411 for Further Data on Above)



New nine-station vacuum can-filling machine suitable for handling oils up to 70 S.A.E.

Phillips Petroleum Co.
Tulsa, Okla.
151-152 Oklahoma Building
In attendance
DON DAVIS
Finished-product display.
(Check 412 for Further Data on Above)

Pipe Couplings, Inc.
New York, N. Y.
90 Texas Building
In attendance
M. C. HUTCHINSON, A. G. BALDWIN,
G. N. LaMONT

Pipeco pipe couplings for grooved end pipe; Pipeco full-flow elbows, tees, and other fittings; Roust-a-bout pipe couplings for plain-end pipe.
(Check 413 for Further Data on Above)

Pittsburgh Steel Co.
Pittsburgh, Pa.
4-5-6 Texas Building
In attendance
J. H. CARTER, J. K. BEESON, J. A. VOELKER, G. A. CONNORS, C. L. ZAK, E. R. SMITH, A. S. VANDERVORT, JR., H. S. DERSHIMER, T. R. MILLER, G. W. NOVAK, J. D. SMITH, J. SIMONIN, JOHN WAIS, W. ROWE.

Oil-country tubular goods, mechanical tubular products, fence, and cargotainers.
(Check 414 for Further Data on Above)

Pittsburgh Valve & Fittings Corp.
Barberton, Ohio
36-37 Silver Lane
In attendance
L. D. SEYMOUR, W. C. GOZA, T. W. HARVEY, M. A. BRADBURN, N. G. SIMPSON, C. E. PIPER, E. L. MacBLAIN, A. E. ERICKSON.

Hydro-Lube plug valves—a totally new kind of a lubricated plug valve; Pittsburgh bronze valves; Pittsburgh iron-body valves.

The lubricated plug valve has positive circulation of lubricant. Every time the valve is opened or closed, all contact surfaces are lubricated by hydraulic force. This provides an easy-working, leak-proof valve that cuts servicing cost to a minimum. The lubricant system is so arranged that the lubricant ducts are never exposed to the line flow. Valve requires no gasket or can never leave its seat in the body, being securely held in position by a bushing in the bonnet.
(Check 415 for Further Data on Above)

Plastelite Engineering Co.
Fort Worth, Tex.
14 Silver Lane
In attendance
C. F. McCAMLY, J. A. CLAY, JR.
R. L. ADAMS, G. G. CRAWFORD

Oil-field specialties including Plastelite pistons and rings, pump valves and disks, flange insulation; Plastelite bushings, sleeves, gaskets; nipples, compressor-valve plates, rod packing, light-weight plastic balls, sucker-rod guides.

Plastelite compressor-valve plates are designed especially for use in large reciprocating compressors handling corrosive gases. The company says these plates are non-corrosive, rustproof, high in mechanical strength and low in cost, and that due to their light weight and type of material, they will not damage the valve seat should failure occur. They are available in either plate or ring types for any compressor, or manufactured according to specifications.
(Check 416 for Further Data on Above)

Plomb Tool Co.
Los Angeles, Calif.
23 Park Lane
In attendance
R. C. RICKE, J. C. GALBREATH

Mechanics hand tools for the oil industry are displayed, ranging from the smallest socket wrenches to large slugging wrenches. Tools for the industry also include drive sockets and attachments; open-end, combination, and box wrenches; pipe and adjustable wrenches; impact and power sockets; spud end and slugging wrenches; screwdrivers; pliers; punches, and chisels.
(Check 417 for Further Data on Above)

Poole Foundry & Machine Co.
Baltimore, Md.
42-43 California Building
In attendance
W. A. WOOD, J. J. ROZNER

Roller bearings, radial and thrust; ball thrust bearings; flexible couplings.
(Check 418 for Further Data on Above)

H. K. Porter Co., Inc.
Pittsburgh, Pa.
Block 5
Hinderliter Tool Co. Division
J. P. Devine Division
Quimby Pump Division
Process Equipment Division
American Fort Pitt Steel Spring Division
In attendance
T. M. EVANS, G. A. HAYS, W. W. CALIHAN, D. C. WALKER, LARRY LYONS, R. H. McKAY, J. E. SAWTELLE, A. D. McCLEAN, GUY F. CARLE, A. C. HAUSER, H. L. ARROWOOD, O. B. MORPHEW.

Casing heads, tubing heads, rotary tool joints, rotary wear subs, rotary grief subs, blowout preventers, christmas trees, rotary substitutes, slush-pump valves and seats, pipe couplings, reverse circulator, cone catcher.

Slush-pump-operated junk basket, circulating and releasing rotary overshot, safety bull plug, valve-removing plug, wedge-type wrist pin, retrievable back-pressure valve, pipe wipers, cable drilling and fishing tools, lubricated-plug valves, agitators and mixers, Devine heat exchangers, Quimby pumps.

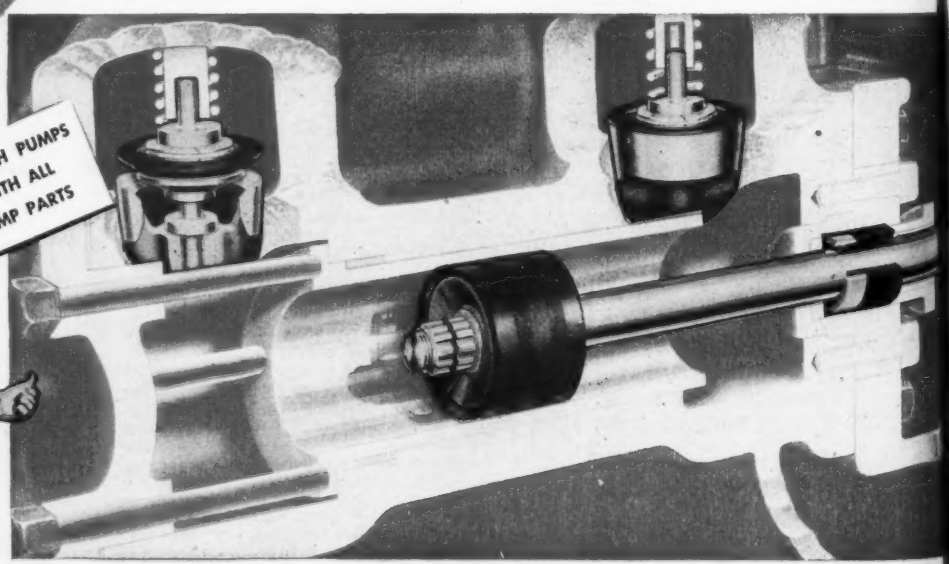
Special displays are being made of three items:

Tuffy slush pump — "The Roughneck's Friend—with valves and seats which give

Announcing A NEW DEVELOPMENT

MISSION IMPROVEMENTS NEVER CEASE

Satin Finish



LEADING OPERATORS ALL OVER THE WORLD SAVE MONEY AND GET LONGER TROUBLE-FREE SERVICE BY USING MISSION SLUSH PUMP PARTS EXCLUSIVELY.

T IN MISSION RODS

. . . even though Mission Piston Rods are outstanding leaders today, Mission improvements never cease . . .

Mission "File Hard" Piston Rods are now being "Satin Finished" to give an ultra-smooth surface to the entire rod—threads, taper and wearing surface.

This new surface gives many benefits—the most important being longer rod and packing wear as explained in the photographs and drawings at right.

In addition, the satin smooth taper means better rod-to-piston fit. The result is less chance for washouts between rod and piston.

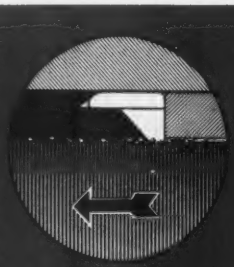
The threads are satin-finished, too. This prevents galling of threads and, by smoothing out sharp corners in the thread roots, reduces stress concentration and chances for rod breakage.

And you get these finer rods at no increase in price! This is just one more example of the leadership that has made Mission products the favorite of leading majors and independents all over the world.

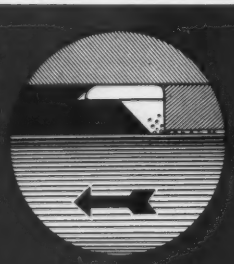
This enlarged photo of the finely ground surface of a Mission "File Hard" Rod shows the microscopic grooves that wear the packing and carry fine sand into the packing where it sticks and cuts the rod.

This enlarged photo shows the "Satin Finish" surface now supplied on Mission "File Hard" Rods. Notice the absence of sharp irregularities to wear the packing and catch sand.

This schematic drawing shows how sand is pulled into the packing by the ridged surface of a ground rod. These sand particles become imbedded in the packing and cut the rod.



Since the smooth surface of the Mission Satin Finish Rod does not carry sand into the packing, the rod wear from sand imbedded in the packing is considerably reduced.



MISSION
MANUFACTURING CO.

P. O. Box 4209 HOUSTON 14, TEXAS

Export Office: 30 Rockefeller Plaza, New York 20, New York • European Address: London, England

8160

longer wear life and greater ease of replacement with maximum valve area for smooth unrestricted flow. Designed for utter simplicity, the valve contains a minimum number of parts (4), and assures positive sealing when handling any regular oil-base or chemically-treated muds.

Full-Flex pipe wiper, the chief feature of which is that it will pass the bit as well as joints and protectors. The wiping edge is in constant contact, whatever the diameter of the pipe or joint. The entire string and bit is passed without dismounting the wiper.

King "B" reverse circulator, which transposes both the downward and return mud streams from the interior of the drill pipe to the annulus. Mud from the pump follows the conventional route through rotary hose and kelly and is reversed in the well bore. No additional valves or special control equipment is needed.

(Check 419 for Further Data on Above)

Wm. Powell Co.

Cincinnati, Ohio

2 Texas Building

In attendance

E. K. PIERCE, L. E. BATTIN

Globe, check and gate valves in bronze, iron and steel; lubricators; whistles; whistle valves; mechanical lift plug valves.

The exhibit includes bronze, iron, and steel valves and other engineering specialties of interest to and used extensively by the oil industry. Among them are the new L.P.G. valves, developed, designed and built for handling butane and propane; also small-size, Class 1,500-lb., integral-bonnet cast steel globe, angle and "Y" valves. In addition to the valves displayed, mostly of stock design for water, oil, gas, and low-pressure steam, the Powell company manufactures cast and alloy steel valves for pressures up to and including 2,500 lb. W.S.P. and for temperatures as high as 1,400° F., made especially to meet the exacting requirements of refinery services. These can be equipped for gear, motor, or toggle operation.

(Check 420 for Further Data on Above)

Precision Products, Inc.

Tulsa, Okla.

42-43 Oklahoma Building

In attendance

G. E. NICHOLSON, J. B. McGAY.

Engineering design timing units and control instruments.

(Check 421 for Further Data on Above)

H. C. Price Co.

Bartlesville, Okla.

203-204-247-248 Oklahoma Building

In attendance

J. S. DEWAR, LLOYD BRYAN, R. P. WHITE, E. R. ENGLISH, JR.; AUSTIN S. JOY.

Somastic field joints, holiday detectors, joint equipment.

(Check 422 for Further Data on Above)

Process Equipment Co.

Tulsa, Okla.

77 Kansas Building

In attendance

WALTER S. SMITH

(Check 423 for Further Data on Above)

Progressive Brass Manufacturing Co.

Tulsa, Okla.

11 Texas Building

In attendance

E. J. THOMAS, C. O. BECHETT

DAN A. MITCHELL

All kinds of nonferrous castings for the petroleum industry.

(Check 424 for Further Data on Above)

% Proportioneers, Inc. %

Providence, R. I.

239 Oklahoma Building

In attendance

H. W. ARDUSER, R. P. LOWE, P. V. CROWTHER

Loss-In-Weight blender for "on stream" addition of antiknock compounds to motor fuels. Volumetric blender for lubricating oils and gasolines.

The new two-fluid volumetric Servomechanism for continuous blending of gasoline, tetraethyl lead, lubricating oils, or similar products

Exhibiting for the first time the Loss-In-Weight blender for "on stream" addition of antiknock compounds to motor fuels, together with the recently developed volumetric blender for lubricating oils, gasolines and other fluids.

(Check 425 for Further Data on Above)

Protura Co.

Tulsa, Okla.

44-45 Texas Building

(Check 426 for Further Data on Above)

Purolator Products, Inc.

Newark, N. J.

17-18 Oklahoma Building

In attendance

MARTIN J. STOLTZ

Lubricating-oil and fuel-oil filters.

(Check 427 for Further Data on Above)

Pyrene Manufacturing Co.

Newark, N. Y.

38-39 Oklahoma Building

In attendance

J. P. MALONEY, JAMES FAULKNER, J. M. WALSH, JR.; ALONZO S. ANDERSON, PATRICK D. KELLY.

In a series of spectacular demonstrations, the Pyrene company will extinguish actual oil fires under emergency conditions. Illustrating the smother technique of fighting petroleum fires, the firm uses a fixed air-foam system and a portable air-foam playpipe to put out flames in a large pit under conditions resembling those in a blazing oil tank. Demonstrations are given daily, weather permitting, at places and times announced.

While the company displays a full line of portable fire extinguishers in its exhibit space, special emphasis is to be given Pyrene air-foam systems and playpipes. Features of the exhibit are two models, each about 30 in. square, of oil tank farms. One shows how an air-foam system with proportioning tank is erected to protect oil tanks of 20 to 45 ft. in diameter. The other illustrates use of an auto-induction air-foam system to guard tanks of the largest size now in use.

Full-size proportioning tanks, foam-makers, primary and secondary inductors and air-foam playpipes of several capacities are on display. Also there are C-O-Two portable extinguishers and wheeled units made by the C-O-Two Fire Equipment Co., a Pyrene affiliate.

A moving picture, "Fire and Ice," is shown continuously. The film describes some of the manufacturing operators on C-O-Two equipment and its use on different kinds of fire. A backdrop to the whole display is a large panel on which a life-like oil fire is being extinguished by a Pyrene air-foam system.

(Check 428 for Further Data on Above)

Quigley Co., Inc.

New York, N. Y.

1 Scientific and Technical Building

In attendance

I. A. PFEIL, J. W. RIDDLE.

On display is a complete line of bonding mortars for fire brick; light-weight, medium-weight and heavy-weight castables; plastic fire brick; insulating fire brick; Missouri and Penna brands of fire brick; chrome plastic; chrome bonding mortar; water-resistant insulation for a wide temperature range; acidproof cements; pipe-thread joint-sealing compounds; and a complete line of industrial and house paints. Typical applications of the complete line, together with samples of the materials as shipped are shown and explained.

(Check 429 for Further Data on Above)

Quigley Panel Constructions, Inc.

New York, N. Y.

2 Scientific and Technical Building

In attendance

H. C. THAYER, S. F. MURPHY, JR.

Precast insulating refractory panels.

Insulating refractory linings for practically every type of heated equipment can be constructed with Quigley precast panels. Thousands of these panels have already been used by the refining industry in construction of high-octane-gasoline plants. This modern type of construction presents numerous advantages, including lower initial and maintenance costs, as well as operating and production efficiencies. Panels are light in weight and combine low heat storage with high insulating value, required for program heating and cooling cycles. Standard panels are provided with one imbedded thread attachment for each square foot. The attachments are flush with the back of the panel. By insection of ⅝-in. stud bolts, washers, and nuts, panels are easily fastened to various designs of supporting and enclosing steel structures. Joint breaking blocks, together with bonding cements, are furnished with panels where required. Special shapes to meet specific applications are made from standard combinations of refractory materials, or of other special materials. Special designs are available for abrasive conditions.

(Check 430 for Further Data on Above)

FROM ANY ANGLE

Brown design reflects top flow meter performance

Put all the features of a flow meter together, then measure over-all *performance.* You'll find, as comparative tests prove, that Brown Flow Controllers have the right combination for top performance.

Look around and inside the Brown Flow Controller. You'll be impressed by the clever combination of precision and ruggedness throughout.

We don't like to be boastful about the greater power or the fact that Brown Flow Controllers have a better pressure-tight bearing and control unit. We like to tell about the working job this instrument can do for you. Better than that, we like to show off the better performance right in your plant.

Your local Brown Field Engineer will be glad to show you performance charts and to demonstrate the Brown Flow Controller. Call him in or write for an informative new 48-page booklet. Ask for Catalog No. 2221.

THE BROWN INSTRUMENT CO., 4488 WAYNE AVE., PHILADELPHIA 44, PA.
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.

Offices in principal cities of the United States, Canada and throughout the world.

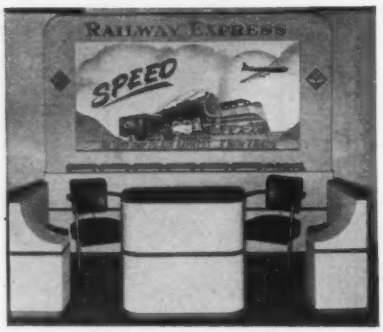
BROWN *Advanced Instrumentation* **FOR BETTER PROCESSING** MINNEAPOLIS **Honeywell**

Railway Express Agency, Inc.

Tulsa, Okla.

28 Scientific and Technical Building

In attendance
FLOYD COBERLY.



Transportation—as portrayed in display of Railway Express Agency, Inc.

(Check 431 for Further Data on Above)

J. P. Ratigan, Inc.

Los Angeles, Calif.

212 Oklahoma Building

In attendance
CHARLES J. RATIGAN,
G. M. SEYBOLD, L. W. HENSHAW

Stuffing boxes, blowout preventers, polished-rod grips and clamps, sucker-rod hangers, sucker-rod hooks, sucker-rod wrenches, sucker-rod elevators, sucker-rod wipers, sucker-rod line weights, sucker-rod safety wheel wrenches, stringing-up links, tubing block clamps, tubing swivels, tubing tongs, triangle C links, paraffin scrapers.

(Check 432 for Further Data on Above)

Reading-Pratt & Cady Division, American Chain & Cable Co., Inc.

Reading, Pa.

175-176 Oklahoma Building

In attendance
J. J. REED, J. P. FERGUSON, J. T. COWAN, J. C. DILWORTH.

Reading-Pratt & Cady brass, iron, and steel valves for oil-field services.

(Check 433 for Further Data on Above)

Raybestos-Manhattan, Inc.

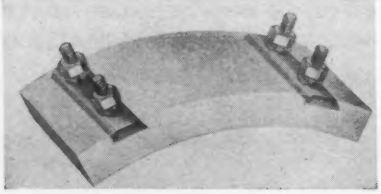
Passaic, N. J.

6 California Building

In attendance
E. W. NAGEL, E. L. ALDERSON, L. C. BARKLEY, P. C. POOLE, W. L. WHITE, H. P. WILHELM, G. C. REED, GEO. W. MARSHALL, JR.; J. E. COLE, M. S. ALLEN, W. K. CARR, H. C. DISHMAN, THOMAS HALL, A. A. RINGLAND, C. P. SHOOK, J. A. SNIPES, J. B. MALLAN, J. A. MINNICK, R. I. HOSKINS, E. A. HAMILTON.

Asbestos and friction material products and special oil-field industrial-rubber products.

(Check 434 for Further Data on Above)



R-M Key-Lok blocks, a new development consisting of lateral fishtail metal strips which slide into slots in the block, providing a new method for attaching brake blocks

Rector Well Equipment Co., Inc.

Fort Worth, Tex.

20-21 Oklahoma Building

In attendance
L. L. RECTOR, C. W. ZARTMAN, D. C. DAVIS, S. B. SCHNITTER, C. L. CRON, F. J. BRADFORD, G. A. DONALDSON, W. P. KNIGHT, J. P. BOWLING, V. E. SMITH, M. T. HARRELL, H. B. DRAGOO, C. M. KESTLER, J. L. PINKARD, M. C. DAVIS.

Rectorheads, Rectorseal, and "Fulbore" cementing equipment.

The principal feature of the exhibit is the new Fulbore cementing method, which provides full casing bore discharge and permits greater volumes to be pumped at lower pressures. It also provides higher annulus velocities for scratching, as well as slurry flow, and eliminates air pockets in cementing flow circuit. Positive fluid segregation is assured by piston sealing plugs. The new-type cementing head constricts and "flows" collapsible cementing plugs into the casing string under pressure.

Full-bore casing discharge is obtained by pressure-ejecting the float assembly from the float shoe by the trip ball seating in top of the float assembly after it has fulfilled its sole function of floating the casing string to positions. The plug has a hollow core which is filled with water, and sealed with an ordinary cork before inserting in the cementing head. Constriction of the plug when passing through the cementing head forces out the cork and a quantity of the water. Refilling occurs, and assists plug reforming in the casing by suction of previous discharge under submergence.

(Check 435 for Further Data on Above)

Reda Pump Co.

Bartlesville, Okla.

50-51-54-55 Kansas Building

In attendance
JOE CARLE, SERGEI ARUTUNOFF, H. F. SCHULTZ, J. F. BOUTWELL, ODDREY NELSON, SHERWOOD LAHMAN, HARRY COLE.

Electrical centrifugal pumping equipment for oil and brine wells; fractional horsepower water-well pumping units for use with oil-field camp hydropneumatic systems; Reda stuffing-boxless pumping units for refinery, pipe-line, loading, and transfer dock use.

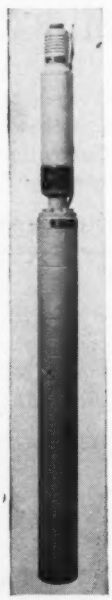


Photo shows one of the Reda submersible electrical centrifugal pumps

(Check 436 for Further Data on Above)

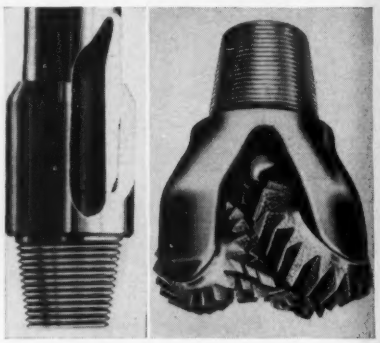
Reed Roller Bit Co.

Houston, Tex.

Block 4

In attendance
H. B. BOOK; W. L. CHILDS, JR.; J. F. KNIGHT; R. G. HAMAKER; E. A. MILLER; C. A. NABORS.

Rock bits, tool joints, core drills, wireline drilling core bits, drill collars, valves, Cleco-Reed pneumatic tools.



Left: Super Shrink-Grip tool joint, pin end. Right: Reed rock bit

An interesting exhibit shows the application and removal of Reed Super Shrink-Grip tool joints to drill pipe and the Super Connection drill collar.

(Check 437 for Further Data on Above)

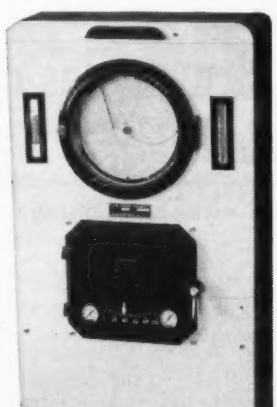
Refinery Supply Co.

Tulsa, Okla.

8-9-10 Scientific and Technical Building

In attendance
W. A. SCHLUETER, J. B. OKESON, H. F. GOODENOUGH, T. C. WILLIAMS, V. F. SWEENEY, O. M. AUSTON, B. E. GEORGE.

Ac-Me and R.S. specialties for the gas and gasoline industry: recording gravitometer, specific-gravity gas balance, pressure vacuum pump, portable vacuum pump, Mercury cleaner, manometer, dead-weight



AC-ME Gravitometer-controller for control application involving the control of specific gravity for gas density

• DEAN HILL PUMPS • STEAM TURBINES •

before others had even begun

DEAN HILL

...PUMPS...

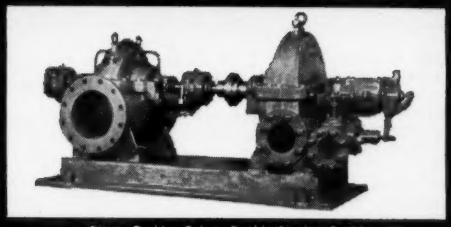
were giving reliable service in the

OIL FIELDS

For Complete Data Contact Nearest Representative In

Houston	New Orleans	Chicago
Dallas	New York	Denver
Tulsa	Philadelphia	San Francisco
	Pittsburgh	

Or Write DEAN HILL PUMP CO., Indianapolis 7, Indiana



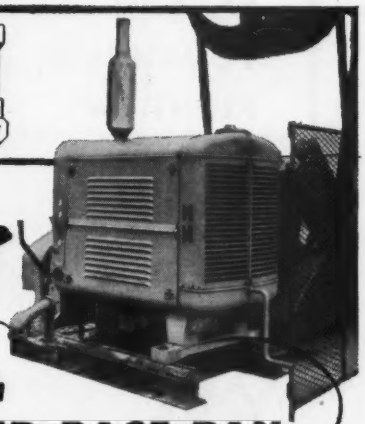
Steam Turbine Driven Double Suction Pump
Complete Unit Made by DEAN HILL—No Divided Responsibility

• DEAN HILL STEAM TURBINES • PUMPS •

• DEAN HILL PUMPS • DEAN HILL STEAM TURBINES • DEAN HILL •

• DEAN HILL PUMPS • DEAN HILL STEAM TURBINES • DEAN HILL •

MINNEAPOLIS-MOLINE
MM
MODERN MACHINERY

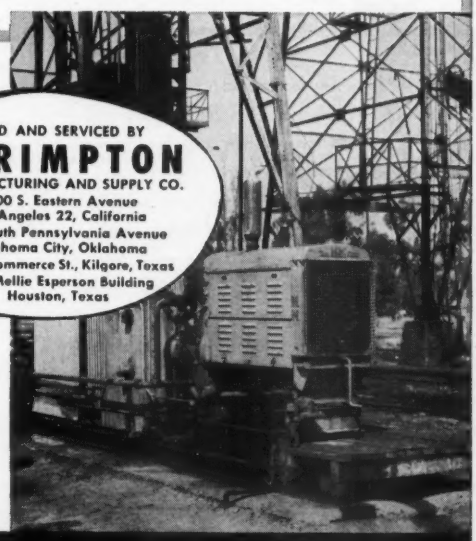


1ST with HEATED BASE PAN

Oil Field Power

Minneapolis-Moline pioneered in the field of Power Units for the oil field! . . steady, dependable power units that deliver economical power year after year. MM Heat Exchanger Base Pan maintains oil at proper temperature so that it can circulate through filter to keep moisture condensation in the oil at a minimum and assures sludge-free oil for efficient lubrication and lower maintenance cost. Safety cutouts on oil pressure and water temperature automatically protect MM Oil Field Units.

Plan to see the new Minneapolis-Moline OILFIELD POWER UNITS on display at the IPE in the Scientific and Technical Bldg.



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SHRIMPTON
MANUFACTURING AND SUPPLY CO.
2700 S. Eastern Avenue
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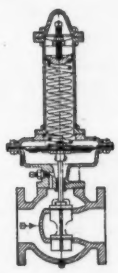
413 N. Commerce St., Kilgore, Texas
545 Mellie Esperson Building
Houston, Texas

MINNEAPOLIS-MOLINE
POWER IMPLEMENT COMPANY
MINNEAPOLIS 1, MINNESOTA

SEALED FOR SAFETY!



The Davis No. 331S Field Regulator

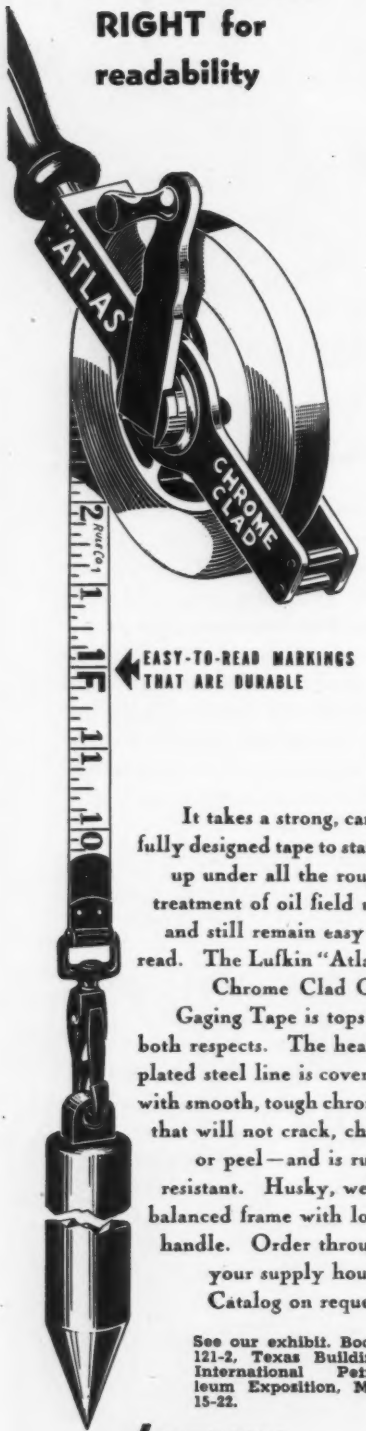
SEALED against unauthorized resetting and against the erosion of weather, the Davis No. 331S spring-loaded Field Regulator gives real control on outdoor gas-gathering systems. Compact, rugged construction is similar to the well known Davis No. 330W weight-loaded Regulator. Built-in by-pass steadies valve action and prevents vibration. Can be adjusted for vacuum or back pressure service in the field. Get full details today. Write for Bulletin.

DAVIS REGULATOR COMPANY
2543 S. Washtenaw Ave., Chicago 8, Ill.

DAVIS VALVES
DAVIS REGULATOR COMPANY

Distributor: Westcott & Greis, Tulsa, Dallas and Houston

TOPS IN TOUGHNESS, RIGHT for readability



It takes a strong, carefully designed tape to stand up under all the rough treatment of oil field use and still remain easy to read. The Lufkin "Atlas" Chrome Clad Oil Gaging Tape is tops in both respects. The heavy plated steel line is covered with smooth, tough chrome that will not crack, chip, or peel—and is rust-resistant. Husky, well-balanced frame with lock handle. Order through your supply house. Catalog on request.

See our exhibit. Booth 121-2, Texas Building, International Petroleum Exposition, May 15-22.

LUFKIN

THE LUFKIN RULE CO.

SAGINAW, MICHIGAN, New York City

I.P.E. DIRECTORY

gage, dead-weight tester, orifice well tester, moisture tester, Flat bore Yel-O-Bak thermometers, streamlined hydrometers, pulsameter, pressure hydrometer jars, vapor-pressure bomb, diamond-core drill, thermo plumb-bob thermometers, thermostat temperature controls, high-pressure consistometer, smoke meters.

The company is one of the leading manufacturers of testing, recording, indicating and controlling instruments for the refining, natural, artificial gas and gasoline industry. W. A. Schlueter, president, is well known, due to his 40 years of connection with the leaders in the oil industry and manufacturers of oil testing instruments. His book, "General Testing Methods and Tables for Mineral Oil," published in February 1920, has led to a large percentage of the recognized standards of today.

(Check 438 for Further Data on Above)

Regan Forge & Engineering Co.

San Pedro, Calif.

198-199-200-251-252-253 Oklahoma Building

In attendance

THOMAS J. REGAN, JOSEPH REGAN, B. S. MINOR, RICHARD REGAN, LOUIS REGAN, ED KIRBY.

Regan crown block, Regan traveling block, Regan hooks, Regan Type "K" blowout preventers, and other miscellaneous items.

The principal feature of this exhibit is a new combination traveling block and hook of the Type H narrow-block design. The block carries four 36-in. sheaves with bearing construction in combination with a standard 200-ton forged steel hook with special bail connecting the hook directly to the block without the use of the conventional lower clevis. The unit is rated at 200-ton working capacity with factor of safety of four to one. A saving of 4 ft. over the shortest hookup in Regan equipment of lower capacity is effected in this streamlined combination, commending it particularly to portable rig operations.

(Check 439 for Further Data on Above)

Reilly Tar & Chemical Corp.

Indianapolis, Ind.

5-6 Scientific and Technical Building

Exhibiting with Steve C. Maples & Co.

(Check 440 for Further Data on Above)

Reliance Regulator Corp.

Alhambra, Calif.

45 Scientific and Technical Building

Exhibiting with Wescott & Greis, Inc.

(Check 441 for Further Data on Above)

Republic Steel Corp.

Cleveland, Ohio

102-115 Kansas Building

In attendance

MANLY B. BROWN, F. H. RAMAGE, W. E. FRUHAN, GILES LOCKE, C. W. RUTH, E. E. BANG, E. E. HAUBEGGER, HENRY R. BOURNE, R. A. LIESER.

Products of the pipe division, alloy and stainless steel division, steel and tube division, bolt and nut division, Niles steel products division, Truscon Steel Co. (subsidiary).

Customer's items of Republic steels such as bubble caps, barrel tubing bushings, rock bits, pump liners, fishtail bit, screen pipe, tongs, still tubes, weldless jars, etc.

The high spot of this exhibit is an aminated dramatization of Republic's pipe sales story—"Inspected Inside and Out." This is accomplished through the employment of a huge plastic eye, 7½ ft. in the air. Rays of light will be directed from this eye to a translight photo of a piece of partially formed pipe. The lights are intermittent and resemble the winking of an eye. This display is three-dimensional.

Another feature is the use of a hydraulic jack to demonstrate the crushing of steel and tube products.

(Check 442 for Further Data on Above)

Republic Supply Co.

Houston, Tex.

99-100-101-116-117-118 Kansas Building

In attendance

A. B. JUDD, H. B. CATLOW, T. C. HENDRICKS, H. C. KINNEY, H. L. ELLIS, J. H. BROOKS.

A general exhibit showing location of supply-store points, names of manufacturers of equipment and supplies handled, manufacturer's literature, etc. No equipment will be displayed.

(Check 443 for Further Data on Above)

Ridge Tool Co.

Elyria, Ohio

28-29-30 Texas Building

In attendance

W. L. PARCELL, R. C. CHAMBERLAIN, S. W. SMITH, R. D. FYE, E. C. BLISS.

Pipe tools.

(Check 444 for Further Data on Above)

Jim Ritchie Co.

Tulsa, Okla.

16 Park Lane

In attendance

H. S. GREEN, BUYRL WILSON, FRANK WELU, JIM RITCHIE

Industrial piston rings and rod packing.

(Check 445 for Further Data on Above)

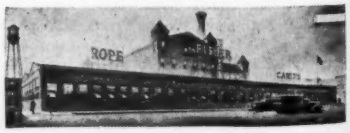
FITLER

"PHILADELPHIA"

OILFIELD CORDAGE

The first 9 strand constructed drilling cable used by Colonel Drake at Titusville, Penna., was made by Fitler.

We cordially invite you to visit our Exposition Headquarters at Booth 4 on Texas Drive, Tulsa, Oklahoma.



The Edwin H. Fitler Co.

PHILADELPHIA 24, PA.

Manufacturers of Quality Rope Since 1804

Rinehart Oil News Co.
Tulsa, Okla.
37 Oklahoma Building
(Check 446 for Further Data on Above)

Robinson Orifice Fitting Co.
Los Angeles, Calif.
45 Scientific and Technical Building
Exhibiting with Westcott & Greis, Inc.
(Check 447 for Further Data on Above)

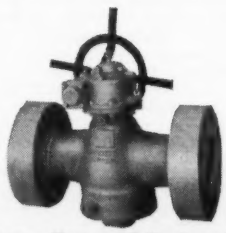
Rochester Ropes, Inc.
Houston, Tex.
125 Texas Building
In attendance
W. L. ROCHESTER, E. E. LAMBERT, J. S. BLACKMAN, PAUL MURRAY, H. C. KINNEY, JR., J. A. HALBERT

Rotary drilling lines, cable tool drilling lines, tubing and rod lines, core barrel lines, clean-out lines, winch lines, sand lines, industrial wire lines, spring-lay rope, Nylon-covered rope.

(Check 448 for Further Data on Above)

Rockwell Manufacturing Co.
Pittsburgh, Pa.
33-34-35-36-37-38 Scientific and Technical Building

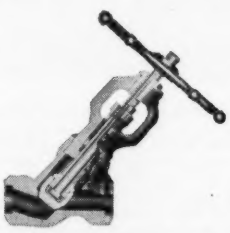
Nordstrom Valve Division — Lubricated plug valves, wrench, gear, and power operated, in a complete range of sizes, types,



High-pressure Hyperseal Nordco alloy steel valve

metals, and working pressures. A new product featured is the high-pressure Hyperseal Nordco alloy-steel valve, tested for 15,000 lb., primarily for christmas-tree service in fields where the highest pressures are developed. There is also an operative transparent-plastic model of this valve. Other Nordstrom products displayed are Hyperseal Merchrome-coated valves of 13 per cent chromium for corrosive distillate service on christmas trees, two-bolt-cover types, standard screw and bolted types, and Multiports in semisteel, Nordco steel, and special alloys.

Edward Valves, Inc.—Forged and cast-steel stop, check, gate, nonreturn, hydraulic, gage, blowoff, Intex, welded-bonnet Univalve, relief valves, strainers, and packing. New Edward products featured include: Forged-steel Univalve for blow-off service, with leakproof seal-welded body-bonnet joint, chromium-molybdenum steel bodies and bonnets, and integral one-piece bonnet with renewable bronze yoke bushing; forged-steel hydraulic stop valves and check valves redesigned with chromium-molybdenum steel bodies; cast-steel nonreturn valve of new design; and cast-steel gate valves different from conventional in basic design.

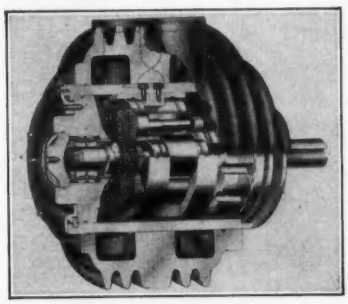


Edward forged-steel Univalve

Pittsburgh Equitable Meter Division—Oil, gas, and water meters and gas-pressure regulators. New products displayed include an oil-field meter and sampler to measure all liquid produced at the wellhead and determine the percentage of oil produced compared with other liquids; a compact tank-truck meter of a single aluminum casting; Rockwell-Emco domestic gas meters with cast aluminum-alloy cases; and a new appliance regulator of a special aluminum alloy.

Pittsburgh oil-field meter and sampler

Hydraulics Division — Showing a new Rockwell Rotocycle pump of the fixed-volume, double-acting type with all operating parts held in hydraulic and dynamic balance, particularly designed for pumping nonlubricating liquids.



Rockwell Rotocycle pump

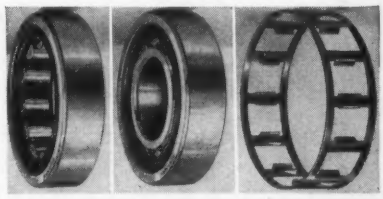
(Check 449 for Further Data on Above)

Rollway Bearing Co., Inc.
Syracuse, N. Y.
42-43 California Building
In attendance
E. R. FRANCIS, J. E. SERO, C. W. McNEIL, M. P. KLUPPEL

Rollway cylindrical roller bearings, radial and thrust types, including bronze separator precision-type, steel-cage type, inch and metric series, and the new Tru-Rol steel-cage-type precision bearing.

The display features Tru-Rol, a new precision cylindrical roller bearing with steel retainer, which complements the Rollway lines of cylindrical roller, radial, and thrust bearings.

The new features of the Tru-Rol bearing are the new distinctive one-piece steel retainer with pockets having deep, broad, double flanges, or guide lips in which the rollers are kept in alignment, which is claimed to insure long life by the correct guiding of the rollers. Additional bearing components are the outer race with deep, accurate ring grooves in the inside diameter into which fit the heavy, substantial snap rings that retain the roller retainer and rollers in the outer race which make up the roller assembly. The inner race is separate and is interchangeable.



The new Tru-Rol line of Rollway bearings

(Check 450 for Further Data on Above)

Rolo Mfg. Co.
Houston, Tex.
Block V
(Check 451 for Further Data on Above)

Roots-Connersville Blower Corp., Dresser Industries, Inc.
Block 11
(Check 452 for Further Data on Above)

Geo. D. Roper Corp.
Rockford, Ill.
Block 4

Rotary pumps exhibited by Harley Sales Co.

(Check 453 for Further Data on Above)

Ross-Martin Co.
Tulsa, Okla.
13 Scientific and Technical Building
In attendance
BERT BRAMMER, MARSHALL MASSEY R. T. CURTIS, J. M. LANIGAN

Geological filing equipment and supplies, including the Kraftbilt line of well-log filing cabinets and a new product recently introduced for filing rolled maps. A complete line of Kraftbilt standard forms for the oil industry.

The company supplies the tools for the business offices of the oil industry.

The Kraftbilt line of custom-built, standard filing equipment and specially designed operating and office forms for the oil industry are typical of this type of service.

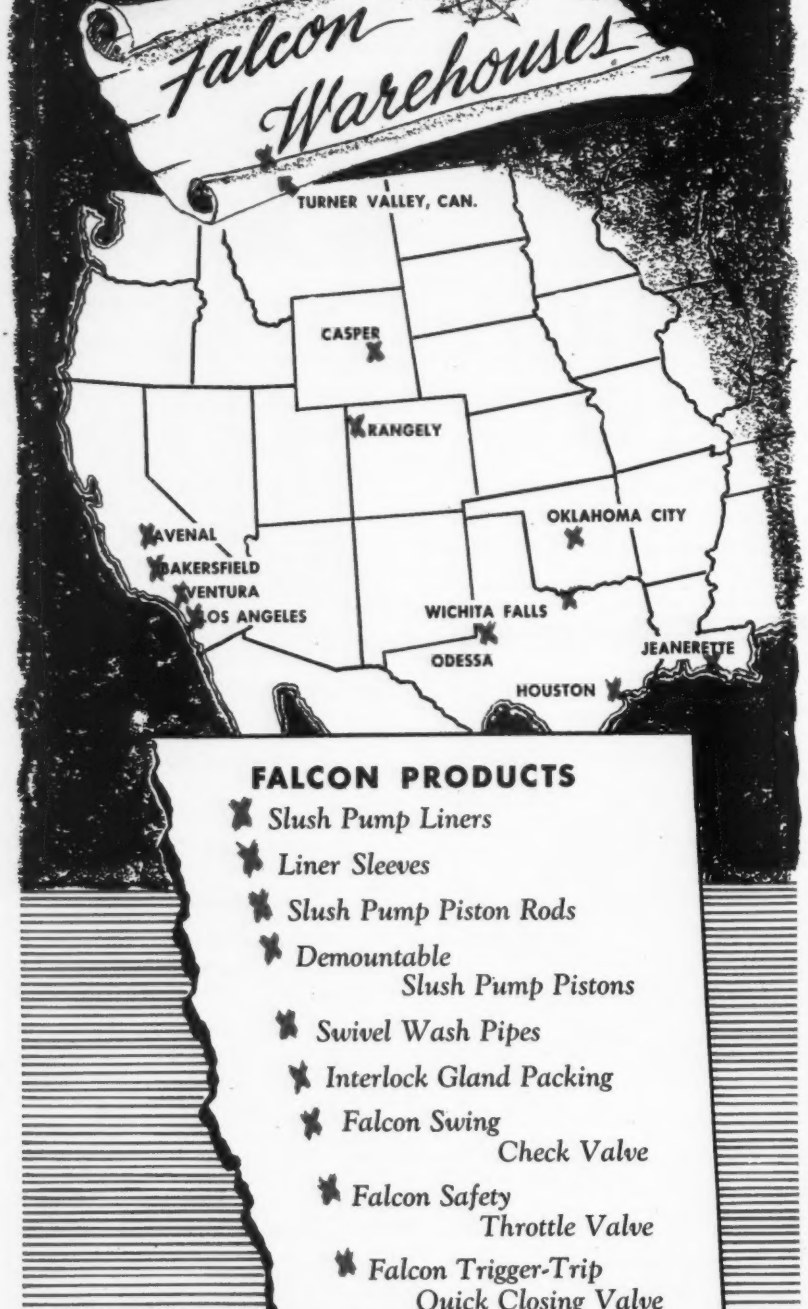
The general theme of the exhibit is to feature the services offered to the industry and to depict the qualifications of the company so that the guarantee behind the complete Kraftbilt line may be better understood and appreciated. Ample literature is available at the booth.

(Check 454 for Further Data on Above)

Milton Roy Co.
Philadelphia, Pa.
23-24 Kansas Building
In attendance
ROBERT T. SHEEN

Milton Roy controlled-volume pumps, automatic chemical feed systems, proportioning system.

Chemical and high-pressure pumps. The exhibit shows pumps used in refinery, natural-gas, and pipe-line applications for handling hot or cold distillates, solvents, furfural, sweet or sour naphtha fractions, lique-



FALCON PRODUCTS

- *Slush Pump Liners*
- *Liner Sleeves*
- *Slush Pump Piston Rods*
- *Demountable Slush Pump Pistons*
- *Swivel Wash Pipes*
- *Interlock Gland Packing*
- *Falcon Swing Check Valve*
- *Falcon Safety Throttle Valve*
- *Falcon Trigger-Trip Quick Closing Valve*
- *Installation of Hughes Flash Weld Tool Joints*

Sold only through leading supply houses everywhere

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LOS ANGELES, CALIF. 405 Subway Terminal Building • HOUSTON, TEXAS 1802 Maury Street

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I.P.E. DIRECTORY

fied petroleum gases, tars and asphalts, petrolatum, acids, and acid sludges.

Other applications are for solvent extraction, pilot-plant operation, neutralization of sulfides, addition of inhibitors, controlled catalyst makeup, polymerization and blending processes, and for boiler water chemical treatment by introducing chemicals directly into the boilers or into boiler water lines as may be required.

On display are positive-displacement units, combining precise metering, down to 1 pt. per hour, with liquid transfer against any required pressure. Standard Simplex and Duplex units are shown, also a pump with electronic speed control for automatic control of pump discharge rate directly proportional to flow, temperature, or any other metered variable.

(Check 455 for Further Data on Above)

Rubber Sleeve Specialty Co.

Oklahoma City, Okla.

163 Oklahoma Building

In attendance

RALPH H. HOWARD

Russco nonslip streamlined casing protectors and drill-pipe stabilizers; Russco hydraulic antifriction applicator; Russco transfer tube.

(Check 456 for Further Data on Above)

Ruska Instrument Corp.

Houston, Tex.

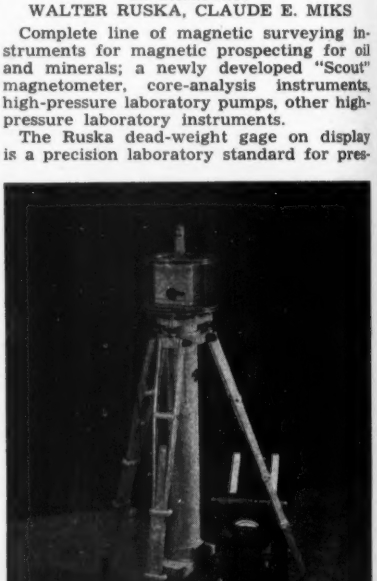
85 Scientific and Technical Building

In attendance

WALTER RUSKA, CLAUDE E. MIKS

Complete line of magnetic surveying instruments for magnetic prospecting for oil and minerals; a newly developed "Scout" magnetometer, core-analysis instruments, high-pressure laboratory pumps, other high-pressure laboratory instruments.

The Ruska dead-weight gage on display is a precision laboratory standard for pressure measurements of high accuracy of a new design which assures extreme accuracy and long piston life.



Ruska Type VR magnetometer

The Scout magnetometer is a vertical magnetometer designed for reconnaissance and mining surveys. The instrument equipment consists of the tripod with turntable, the orienting compass, the magnetometer with system, two compensating magnets, and the necessary field tools.

I.P.E. DIRECTORY

The total weight of the instrument equipment and carrying cases ready for field use is approximately 18 lb. Due to its compactness and lightness in weight, it may be carried over long distances without tiring the operator. When equipped with a surveying compass, the stations can be rough surveyed without the need of additional equipment.

Ruska super-pressure volumetric pumps are screw-feed laboratory pumps suitable for pressure up to 25,000 psi. They are graduated to read direct in cubic centimeters with subdivisions of 0.01 cc. Three models are available with 100, 250, and 500-cc. cylinder displacement. All models can be used with motor drive.

The vertical recording magnetometer is a base-station magnetic field balance designed for photographically recording variations of the vertical field intensity at a base station to obtain correction values for field instruments. The design of the instrument permits taking visual readings through a standard magnetometer telescope without disturbing the record which is being taken. This is a newly designed instrument and makes new aspects of base-station recording possible. It is fully self-contained and does not require a portable dark room or light-tight tent, and records time, temperature, and diurnal variations in such a way that this information can be readily correlated.

(Check 457 for Further Data on Above)

St. Louis Cordage Mills
St. Louis, Mo.
89 Texas Building
In attendance
WM. T. DAVIS, WM. J. WARD
HAROLD V. PATE

A full line of oil-field cordage including catlines, spinning lines, derrick lines, drilling cable, and others.

(Check 458 for Further Data on Above)

St. Paul Hydraulic Division, Gar Wood Industries, Inc.
Block 13

(Check 459 for Further Data on Above)

Sapulpa Tank Co.
Sapulpa, Okla.
34 Park Lane
In attendance
DONALD H. JUDD, WALTER E. BROWN

Equipment and pictures showing the erection of oil-storage tanks in the field.

(Check 460 for Further Data on Above)

E. H. Sargent & Co.
Chicago, Ill.
26 Scientific and Technical Building
In attendance
R. J. REINARTS, R. L. OSBURN, RAY MOSER

Sargent Polarograph, viscosimeter bath, cone-drive stirring motor, A.S.T.M. approved hydrometers and thermometers.

The Polarographic Analysis is a modern instrumental method based on the interpretation of current-voltage curves characteristic of a solution, when it is electrolyzed with the dropping mercury electrode. The Model XXI represents the latest development in polarographic instrumentation. The Sargent constant temperature viscosimeter bath maintains any selected operating temperature. The bath cover has individual positions for six pipettes of Ostwald, Fenske-Cannon or Ubbelohde types which can be observed through the transparent walls of the bath while immersed.

(Check 461 for Further Data on Above)

SANTA FE COOLING TOWERS

COOLING TOWERS (MECHANICAL DRAFT • CYLINDRICAL • ATMOSPHERIC) WOOD TANKS • WOOD PIPE • MULTI-FIN UNITS

Equipment designed, engineered and installed by SANTA FE TANK & TOWER are used by leading oil companies, including such leaders as Standard Oil Company of California, Phillips Petroleum, Union Oil, Shell Oil Co., and Barnsdall Oil Company.

Pioneers in Cooling Equipment since 1909, there are no limitations to Santa Fe's ability to cope with any cooling problem . . . regardless of your needs, our engineering staff will design and build equipment to meet the three essentials of Cooling Tower design . . . PERFORMANCE . . . ECONOMY . . . DURABILITY.

A WORKING CREED — The Will to do RIGHT — 43 YEARS OLD

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BRANCHES: HOUSTON, TEXAS ★ TULSA, OKLAHOMA ★ NEW YORK, N. Y. ★ SAN FRANCISCO, CALIFORNIA

Sargent Engineering Co.
Huntington Park, Calif.

Block 9

In attendance
S. B. SARGENT, J. E. SARGENT
Subsurface oil-well pumps.

(Check 462 for Further Data on Above)

Schlumberger Well Surveying Corp.
Houston, Tex.

66-67-68 Scientific and Technical Building

Well-surveying equipment.

The booths have been planned not only to accommodate a number of the latest well-surveying instruments, but also for the convenience of old and new friends as a comfortable place to relax and chat.

The equipment exhibited includes the most modern photographic electric well-logging recorder capable of recording the several curves presented on the standard electric log on two depth scales on one trip out of the hole.

Surface controls for all Schlumberger auxiliary services such as side-wall coring, dipmeter surveys, photoclinometer directional surveys, section gage surveys, radioactivity logging, precision gun perforating, radioactive marker surveys, and induction logging are included as an integral part of the new equipment.

The subsurface equipment used for each of the services mentioned is also exhibited.

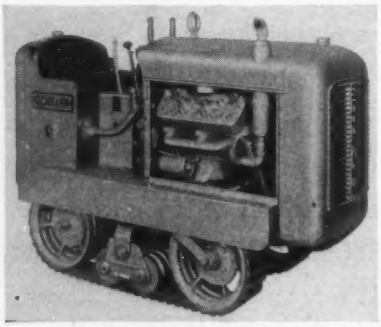
(Check 463 for Further Data on Above)

Schramm, Inc.
West Chester, Pa.

9-10 Texas Drive

In attendance
HAROLD J. SCHRAMM

Self-propelled crawler-type compressor, diesel-engine-drive compressor, complete assortment of pneumatic tools.



No. 60 self-propelled crawler-type compressor

(Check 464 for Further Data on Above)

Scintilla Magneto Division, Bendix Aviation Corp.
Sidney, N. Y.

9-10 Oklahoma Building

In attendance
B. L. McGREGOR, A. J. POOLE, JR.

Aircraft ignition systems, ignition systems for industrial engines, fuel-injection equipment for diesel engines, electrical connectors and other electrical components, and examples of ceramics and moldings.

Exhibited are various products of the company's manufacture including examples of aircraft ignition systems that were standard equipment on famous combat planes during the last war, and are being used to equip the latest transport and jet-powered military aircraft. Industrial engine magnetos are also exhibited.

Fuel-injection equipment for diesel engines constitutes an important part of the exhibit, including injection pumps and spray nozzles used by about 31 railroads' diesel-powered locomotives.

Electrical connectors, outstanding in their efficiency, are shown, along with other electrical equipment, and there is an interesting exhibit of ceramics and moldings.

(Check 465 for Further Data on Above)

Scott-Rice Co.
Tulsa, Okla.

7-8 Oklahoma Building

In attendance
TAFT WELCH

Tubefile for filing maps.

These Tubefiles units are actually rigid steel bins, installed in standard strong steel cabinets, set on hinges, so that they will tilt forward for easy access.

The tubes are made of durable, smooth fiber and the tracings are rolled up and inserted, being filed according to a simple system of coordinates. There is never any question as to where a drawing is, because there is only one tube in which it can be. Tracings much larger than the 36-in. square can be filed, because there is ample clear space above the unit, inside the cabinet.

Cabinets are furnished with trouble-free locking devices, keys, handsome nickel handles and strong hinges. They are made of fine furniture steel.

(Check 466 for Further Data on Above)

Security Engineering Co., Inc.
Whittier, Calif.

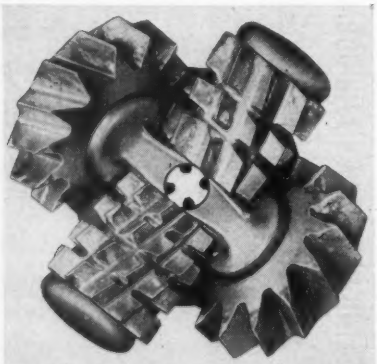
Block 11

Rock bits, coring bits, trigger bits, hole openers, casing scrapers, Sievers reamers, Securaloy products and accessories.

New equipment shown includes:

Security coring bit designed to be used as a regular rock bit as well as a coring bit and which provides core sample of last 3 ft. drilled, makes full-gage hole as fast as regular rock bit, lasts as long as rock bit due to large cutters and bearings, and eliminates special coring operations and equipment.

Demountable hole-opener used to enlarge small holes drilled ahead of the main hole. The new feature is the demountable cutter



Security coring bit, Type OB-1, end view

design, which requires only simple hand tools to change cutters.

A casing scraper which finds many applications in drilling operations and quickly removes foreign matter from the casing walls, assuring free passage of other tools and equipment.

Survey trigger bit especially designed for use during directional drilling where frequent surveying instrument readings are required to determine direction and inclination of the hole. The advantage of this bit is that a surveying instrument can be run at any time without coming out of the hole, and without pulling core barrels, core breakers, or other equipment.

(Check 467 for Further Data on Above)

Seismograph Service Corp.
Tulsa, Okla.

75-76 Scientific and Technical Building

In attendance
A. J. BARTHELMES, R. S. FINN, G. M. GILTINAN, J. E. HAWKINS, T. A. MANHART, R. W. MOSSMAN, G. W. REED, H. M. THRALLS, G. H. WESTBY.

Earth-motion recorder.

Participating in this exhibit are Seismograph Service, Ltd., American Exploration Co., and Westby Geophysical Corp. The display features variable area recording and reproducing instruments, which make possible the analysis of seismic impulses under laboratory conditions. Field shots and special test impulses may be reproduced for purposes of wave analysis or instrument design.

(Check 468 for Further Data on Above)

Service Engineers, Inc.
Plastelite Engineering Co.
Fort Worth, Tex.

14 Silver Lane

In attendance
J. C. CLAY, JR., G. G. CRAWFORD

Laminated plastic insulating pipe nipples, bushings, flange insulation, pistons and piston rings, rod packing, compressor valve seats and plates, pump valve seats and disks, and miscellaneous other oil-field items manufactured from laminated plastics.

The exhibit, besides having a stationary display of the various products, includes three dynamic displays showing the following: (1) mechanical strength of plastic pipe nipples and bushings by pulling them apart on a tensile machine; (2) pressure-resisting strength of plastic ring gaskets for ring-joint flanges on a hydraulic test rack—10,000 psi. pressure; (3) electrical insulating properties of materials, with special apparatus. A test will be run for anyone interested.

(Check 469 for Further Data on Above)

Shaffer Tool Works
Brea, Calif.

1-2 Oklahoma Building

In attendance
DONALD U. SHAFFER, CARL W. VOGT, JAMES ROE

High-pressure drilling and control equipment; casing, landing, and tubing heads; adjustable flow beans; fishing tools; and other oil-field equipment including the new bumper safety joint.

In the display is the combination rotating blowout preventer and stripper, a unit that combines in one device every feature needed for drilling under pressure and maintains a continuous seal around all elements in the drill string. The unit offers advantages when drilling in with oil or very light mud and for reverse-circulation operations.

The exhibit also features the newest developments in double and single cellar control gates for closing off around the drill string when pressure emergencies occur or for closing off open hole when the drill string is out of the well. It combines two separate ram compartments in one body that even in the largest size requires less than 29 in. of vertical height.

Another portion of the exhibit is devoted

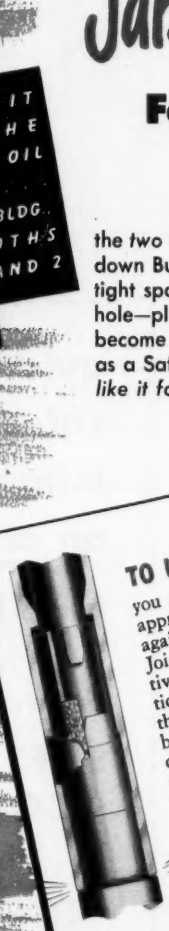
NEW The SHAFFER-WAGGENER BUMPER SAFETY JOINT

Jars automatically-and repeatedly!

Foolproof release whenever desired!

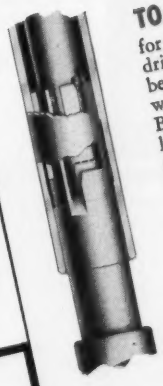
SEE IT AT THE TULSA OIL SHOW OKLA. BLDG. BOOTHS 1 AND 2

Here's something completely new that has already proven itself on one deep well after another—the Shaffer-Waggener Bumper Safety Joint. It combines in *one* tool the *two* most effective methods of protecting against stuck pipe . . . a rigid, wobble-free drive down Bumper Sub that can be run in the drill string for jarring through formation bridges, tight spots, and freeing "balled-up" bits or driving out of key seats when coming out of the hole—plus a foolproof Safety Joint that assures quick release from drill collars that have become hopelessly stuck. What's more, as a Bumper Sub it operates *automatically* . . . and as a Safety Joint it is the *strongest*—not the weakest—joint in the string. *There's nothing else like it for all-around safety and dependability!*



TO USE AS A BUMPER SUB

you need only slack the weight of approximately 2000 ft. of drill string against the top of the Bumper Safety Joint. This weight actuates a positive trip mechanism which automatically releases, allows the weight of the pipe to strike a sharp downward blow, and then the tool automatically resets itself for another blow as the pipe is raised. Blows can be struck repeatedly and continuously by simply raising and lowering the drill string, thus permitting prolonged jarring as long as necessary to free the string.



TO USE AS A SAFETY JOINT

for quick, positive release from stuck drill collars in the event they cannot be loosened, you simply slack the weight of the string to trip the Bumper Safety Joint and then apply left torque and slightly raise the tool to release. The slight reverse torque rotates the drive keys into an unlocking slot similar to a "J" tool. Then, by simply lifting the string, complete release from the stuck portion of the drill string is effected. The mandrel remaining in the hole is of smaller diameter than the drill collars, thus facilitating fishing operations in tight holes.

Advantages as a BUMPER SUB

- The Shaffer-Waggener Bumper Safety Joint remains in locked position at all times until the required tripping weight is placed on it. Therefore, there is no "working" of the joint during normal drilling operations—hence, no wear on the tool, its packing or parts.
- The Bumper Safety Joint is an *automatic* Bumper Sub—it jars automatically, and re-sets automatically by simply raising and lowering the drill string. No complicated drill string manipulations are necessary.
- When pipe becomes stuck, the definite tripping action of the Bumper Safety Joint gives positive indication as to whether the string is stuck above or below the tool, thus saving vital time in proceeding with recovery operations.

Advantages as a SAFETY JOINT

- Because of its unique and positive releasing design, which does not require back torque, the Bumper Safety Joint is the *strongest* joint in the string—not the weakest, as in all other conventional Safety Joints. Therefore, it is equally efficient for *both* right and left rotation during all drilling operations.
- Complete release from stuck portion of drill string is effected *only* by tripping the tool and then applying reverse torque combined with upward movement. There is no danger of the tool releasing during jarring or drilling operations!
- The Shaffer-Waggener Bumper Safety Joint is packed with chevron-type asbestos packing adequate to withstand any known bottom hole temperature—and adequate to insure leakproof operation under continuous high circulation pressures.

AVAILABLE IN ALL SIZES...

The Shaffer-Waggener Bumper Safety Joint is available in a wide range of sizes for use with all commonly-used drill strings. In each size the amount of weight necessary to operate the tool equals approximately the weight of 2000 ft. of the corresponding size of drill pipe.

SHAFFER

HIGH PRESSURE DRILLING AND CONTROL EQUIPMENT • FISHING TOOLS THAT EXCEL

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EXPORT SALES OFFICE: Shaffer Tool Works, 30 Rockefeller Plaza, New York, N. Y., U. S. A.

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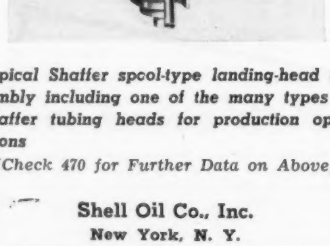
to landing, casing and tubing heads, particularly featuring the many types of packing units available in this equipment. Another feature is the combination landing base heads that combine both a base and a head with vertical height not exceeding that of a conventional head alone.

Newest developments in adjustable flow beans are shown with many types of tips available in this equipment. Besides the standard conical tip, there is a micro tip, a thermo tip and hard metal tip.

Another important spot in the exhibit is given to the newly developed Shaffer-Waggener bumper safety joint, a new type of tool for protecting drill strings on modern deep-well operations. This tool combines in one device the two most effective methods of protecting against stuck pipe—a quick-operating bumper sub, and a new type of safety joint that is the strongest joint in the drill string. The joint incorporates a unique mechanism that locks the bumper sub in the open position at all times until weight equivalent to approximately 2,000 ft. of drill pipe is placed upon it.

In addition the exhibit shows many fishing tools.



Typical Shaffer spool-type landing-head assembly including one of the many types of Shaffer tubing heads for production operations

(Check 470 for Further Data on Above)

Shell Oil Co., Inc.
New York, N. Y.
39 Scientific and Technical Building
In attendance
C. L. STINNETT.

This exhibit is limited to continuous showing of two films out of a series of six which are designed better to educate the public regarding the oil industry. The films are "Prospecting for Petroleum," a history of exploration methods and description of modern exploratory techniques, and "The Birth of an Oil Field," which shows drilling and production methods. In addition, some of the small puppets used in filming these pictures will be on exhibit.

(Check 471 for Further Data on Above)

Shrimpton Manufacturing & Supply Co.
Los Angeles, Calif.
Block Z
In attendance
CLAUDE A. WHEELER

All models of Minneapolis-Moline oil-field power units. One M.-M. Economy Engineering Co. generator set.

(Check 472 for Further Data on Above)

Sight Feed Generator Co.
Richmond, Ind.
32 Kansas Building
In attendance
CARL F. SMITH, RALPH L. KENNEDY, M. J. VAN DRESER

Model P.S. portable acetylene generator, the "Oil Field Special" Model AP generator for ¼ by 1/12-in. carbide; a tilting table to show operation of the "Oil Field Special" generator while moving.

This equipment is reported to save from 50 to 75 per cent on acetylene costs and the carbide charge is always visible through the transparent Pyrex hopper. The breech-lock method of recharging the Sight Feed

quickest, safest joint welding on all pipe lines!

• • • •

the revolutionary

SAFTYWELD COUPLING

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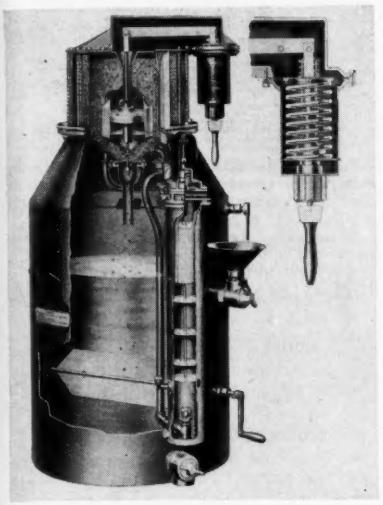
1412 GRAND AVENUE
KANSAS CITY 6, MO.



Sight Feed safety check stops expensive flash backs. Withstands back pressure up to 2,500 psi.

also is simple and fast. Other featured designs pertain to the regulation of feed and flow of acetylene.

(Check 473 for Further Data on Above)

Simplex Co.

East Moline, Ill.

Block G

In attendance

MAX E. LANDRY, M. DEBREY

Exhibiting a line of Simplex voltage regulators.

(Check 474 for Further Data on Above)

Skelly Oil Co.

Tulsa, Okla.

47-48-58-59 Kansas Building

In attendance

R. L. GAGE, C. E. IGEL

Skelgas operating equipment and bulk systems, complete kitchen, Skelgas domestic appliances.

The exhibit includes a kitchen demonstration by a home economist to explain this phase of the Skelly company's activities.

(Check 475 for Further Data on Above)

SKF Industries, Inc.

Philadelphia, Pa.

67-68 Texas Building

In attendance

C. D. CUMMINGS, A. S. MURRAY, R. C. BYLER, J. L. BRUSCA, H. L. GADDIS, ROBERT M. BRUCE, A. H. DIXON, W. F. WEIDNER, V. A. MENAGLIA.

A complete line of spherical roller bearings and pillow blocks designed for heavy-duty application is exhibited, highlighting the important part antifriction bearings and equipment perform in the oil fields.

SKF is the nation's largest manufacturer of spherical roller bearings which are widely used in shale shakers, draw works, pumping units, mud pumps, winches, and other oil-field equipment. The spherical roller thrust bearing, especially adapted for oil-well swivels, incorporates into a single bearing the highly desirable features of high load-capacity, speed, and low temperature. The bearing's self-aligning principle compensates for shaft deflections, distortions, or weaves, and permits heavy loads to be distributed evenly over all rollers, eliminating danger of overloading. Applications of precision-made balls in working barrels are also featured at the exhibition.

(Check 476 for Further Data on Above)

A. O. Smith Corp.

Milwaukee, Wis.

177-178-179-180 Oklahoma Building

In attendance

R. J. AMANN, A. E. BUTTS, NORMAN GEORGE, JACK BLANCO, J. C. RILEY, JR., J. F. DONNELLY, H. H. NEEDHAM, J. P. PARKER, W. R. KEPLER, D. F. McCARTHY.

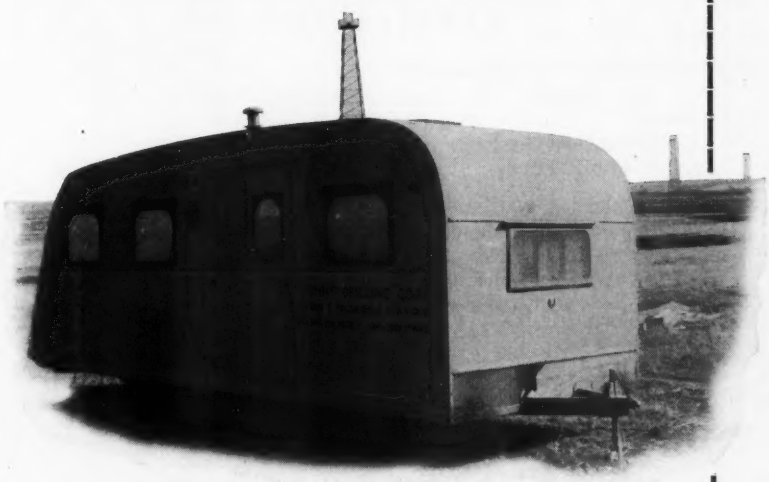
Large-diameter line pipe; oil-well casing; pressure vessels—carbon steel, alloy lined, clad, solid alloy, multilayer for extremely high pressures; liquid gas systems, Smith meters, bulk and truck measuring meters, level gages; welding electrodes, liquid-gas water heaters.

This exhibit is using a "family show" motif. The company displays most of its products that serve the petroleum industry, including pressure vessels, auto frames, line pipe, casing, meters and welding electrodes and equipment. Also on display are liquid gas systems and L.P.G. automatic storage water heaters.

Of considerable interest is the work done by A. O. Smith in introducing standard specifications in the making of pressure vessels. Another point of interest is the company's work in the field assembly of vessels. The company has successfully applied standard procedures to such mass-produced items as line pipe, casing and such "vessel" fabrication as liquid-gas systems. It also has taken some interesting steps in the field of assembly of vessels.

(Check 477 for Further Data on Above)

MOBILE on-the-job QUARTERS



An on-the-job photo of the Summit Drilling Corporation's "Homette." Courtesy of John Whited, Gen'l Supt., Tulsa, Oklahoma.

Travelite "Homette"

Completely Furnished House Trailers for Drilling or Living Quarters

See the Travelite "Homette" at 4401 E. 11th St., Route 66, Tulsa, Oklahoma, or Write for Circular.

Travelite Trailer Company

4013 Wentworth Avenue, Chicago 9, Ill.

2730 Bryan Avenue, Fort Worth 3, Texas

1st of Tulsa

STATEMENT OF CONDITION

April 12, 1948

RESOURCES

Cash and Due from Banks	$49,118,454.70	
U. S. Government Securities	78,520,149.55	$127,638,604.25
Other Bonds and Securities		6,323,872.07
Loans and Discounts		44,526,940.66
Federal Reserve Bank Stock		180,000.00
Income Earned, Not Collected		337,358.97
Bank Premises		1.00
Investment in Future Banking House		500,000.00
Furniture and Fixtures		1.00
Customers' Liability Under Letters of Credit		640,817.16
Other Resources		8,439.56
		$180,156,034.67

LIABILITIES

Deposits: Individuals, Firms and Corporations	$133,127,232.82	
Banks	20,578,324.40	
U. S. War Loan Account	3,466,117.47	
Other Public Funds	13,179,026.57	$170,350,701.26
Income Collected, Not Earned		209,627.05
Taxes, Interest and Expense—Accrued		597,500.95
Reserve - Equipment New Banking Quarters		300,000.00
Dividend Declared (Payable June 15, 1948)		50,000.00
Letters of Credit Outstanding		640,817.16
Capital	$2,000,000.00	
Surplus	4,000,000.00	
Undivided Profits and Reserves	2,007,388.25	8,007,388.25
		$180,156,034.67

DIRECTORS

B. F. BARNETT, Vice President
W. M. BOVAIRD, President, Bovaird Supply Company
J. P. BYRD, Jr., Asst. to the President
F. L. DUNN, Executive Vice Pres.
J. L. SHAKELY, President, Jones & Laughlin Supply Company
ELMER HALE, President, Hale-Halsell Company
JOHN D. MAYO, President, Mayo Hotel Company
R. OTIS McCLINTOCK, President
F. B. PARRIOTT, Chairman, Sunray Oil Corporation
FRANK O. PRIOR, Vice President, Standard Oil Company (Indiana)
A. L. FARMER, Real Estate
W. G. SKELLY, President, Skelly Oil Company
R. ELMO THOMPSON, Vice President
GARY Y. VANDEVER, Vice President, Vandever Dry Goods Co.
JAY P. WALKER, President, National Tank Company
W. K. WARREN, President, Warren Petroleum Corp.

THE FIRST NATIONAL BANK AND TRUST COMPANY OF TULSA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

I.P.E. DIRECTORY

Smith Meter Co.
Los Angeles, Calif.
83-84 Scientific and Technical Building
In attendance
HARRY G. SMITH, J. W. HARRIS
R. C. WELDON, W. G. MOSER

Positive displacement liquid petroleum meters for truck installation, small bulk plants, transport loading racks, refinery process service, pipe line and production.

Automatic ground-reading liquid-level gages and automatic electric remote-reading liquid-level gages.

(Check 478 for Further Data on Above)

Smith-Morse Decals, Inc.
Los Angeles, Calif.
162 Oklahoma Building
In attendance
ROBERT MORSE, B. G. OLSON

Ad-Color and Water Mount decals for oil-company and oil-field applications, including service-station signs, pumps, drums, hi-boys, windows, tank cars, trucks, tractors, trailers, and storage equipment. The adhesive is a war development which, with the feather edge, overcomes cracking, checking, creeping, and fading.

(Check 479 for Further Data on Above)

Somastic Division, Bechtel Corp.
San Francisco, Calif.
203-247 Oklahoma Building
Exhibiting with H. C. Price Co.
(Check 480 for Further Data on Above)

Snap-On Tools Corp.
Kenosha, Wis.
5 Park Lane
In attendance
M. B. STEINMETZ, F. M. LOURIGAN, K. S. CLARK

Socket-wrench sets, open-end and box wrenches, wheel and gear pullers, screwdrivers, pliers, punches and chisels, sanders, drills, torque wrenches.

The exhibit features torque-test trials where visitors attempt to tension equally and correctly tighten a series of four spark plugs.

(Check 481 for Further Data on Above)

Sonken-Galamba Corp.
Kansas City, Kans.
17 Park Lane
(Check 482 for Further Data on Above)

Sonner Burner Co.
Winfield, Kans.
159-160 Oklahoma Building
In attendance
P. J. SONNER, S. A. SWOYER, MAX V. STOCKING

L-1 heat machine (house heating), LIH oil-field burner, LV oil-field burner, Sonner nonfreeze valve.

The Sonner LV air-cooled burner is an upshot-type burner for low-pressure gas firing of all types of firebox boilers used in drilling and production work in oil fields.

This burner is of unitized construction, making it possible to make up a burner to fit any firebox. This flexibility permits the flame to be distributed over the entire firebox, insuring efficient operation and long life to the boiler.

The burner will operate over a wide range of gas pressures, thus assuring abil-

ity of carrying more than 200 per cent boiler rating, or the maximum boiler overload on only 2 to 5 lb. of gas pressure, without decreasing the efficiency.

(Check 483 for Further Data on Above)

Southern Gas & Equipment Co.
Tulsa, Okla.
22 Park Lane
In attendance
R. M. TUDOR, NORMAN SLOVER
R. H. KERR, FRANK P. DeLARZELERE

Complete propane wholesale bulk service unit, in miniature, including two 30,000-gal. storage tanks; assortment of domestic storage tanks from 250 gal. to 1,000 gal.; 4,000-gal. transport; 1,250-gal. delivery truck; pickup truck; modernistic cylinder filling building; 50 or 75 ICC cylinders; complete piping; tank car, and railroad. All of these are in miniature form.

(Check 484 for Further Data on Above)

Southern Mill & Manufacturing Co.
Tulsa, Okla.
Block 105
In attendance
W. H. AHRENS, R. E. AHRENS, E. W. SPEARS, J. A. FISH, GLENN COCHRAN, H. T. TUCKER.

A full-size oil-field lease house complete in every respect, showing how it will fill every need for refineries, pipe-line stations, leases, gasoline plants, or other housing requirements. The exhibit also shows how Southern Mill can handle all camp requirements from plans to completion, including warehouses, garages, power plants, water systems.

(Check 485 for Further Data on Above)

South West Box Co.
Sand Springs, Okla.
18 Kansas Building
In attendance
MIKE F. BEATTY, JR.; HARRY B. GALE, C. M. (KIT) CARSON, LAWRENCE J. LOFTUS.

Display of corrugated boxes engineered to the needs of the oil industry.

Hoerner Box Co. affiliates joining in this exhibit are South West Box Co., Sand Springs, Okla.; Southwest Corrugated Box Co., Fort Worth, Tex.; Arkansas Box Co., Fort Smith, Ark.; Iowa Fiber Box Co., Keokuk, Iowa; Des Moines Container Co., Des Moines, Iowa; A. B. C. Corrugated Box Co., Minneapolis, Minn.; Cajas y Empaques Impermeables, S. A. Mexico, D. F.

(Check 486 for Further Data on Above)

Spang & Co.
Butler, Pa.
44-45-60-61 California Building
In attendance
FRED J. SPANG, C. E. SPANG, GEORGE FISH, JR.; L. F. PORTER, O. B. PIERCE, T. TROLL, F. J. RIPPER.

Jars, bits, packers, and fishing tools.

(Check 487 for Further Data on Above)

Sparkler Manufacturing Co.
Mundelein, Ill.
14 Scientific and Technical Building
In attendance
A. C. KRACKLAUER, W. J. KRACKLAUER, A. LAQUEUR, FRANK NEIL

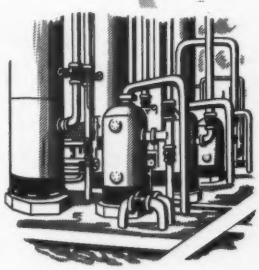
Demonstration of several types of Sparkler horizontal plate filter.

(Check 488 for Further Data on Above)

Think of C-O-TWO
TRADE MARK
REG. U.S. PAT. OFF.
for fast, positive fire protection!

Fast spreading petroleum fires demand fast, positive action. C-O-TWO is the answer, whether it's in producing, refining or distributing. C-O-TWO means modern fire protection . . . non-damaging, non-conducting, non-corrosive and non-contaminating. C-O-TWO is dry, clean carbon dioxide gas . . . snuffs out the fire in seconds, then disappears without a trace.

C-O-TWO manufactures the right size and type of fire detecting and extinguishing equipment for your needs: hand portables, wheeled portables, hose rack units and built-in systems. The new C-O-TWO Combination Smoke Detecting and Fire Extinguishing System renders automatic, around-the-clock fire protection in enclosed areas such as store rooms and record vaults.



Let an expert C-O-TWO Fire Protection Engineer advise you on your fire protection needs now, before fire strikes. Just clip this advertisement to your letterhead or calling card and mail for complete information about modern C-O-TWO Fire Protection Equipment. Remember fire doesn't wait . . . act now!

SEE OUR EXHIBIT
International Petroleum Exposition
Booth 39, Oklahoma Building

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY
Sales and Service in the Principal Cities of United States and Canada
AFFILIATED WITH PYRENE MANUFACTURING COMPANY

— IN THE
HALL OF SCIENCE
•
INTERNATIONAL
PETROLEUM EXPOSITION
MAY 15 TO 22
TULSA, OKLAHOMA

•
INSPECT OUR TRAYS
AT BOOTH 30-A
SILVER LANE

THE KOCH ENGINEERING CO., INC.

335 WEST LEWIS WICHITA, KANSAS

I.P.E. DIRECTORY

Spartan Tool & Service Co.

Houston, Tex.

Block 104

In attendance

C. P. PARSONS, H. F. (Blackie) CLARK, TURNER BRIGGS, E. E. HALE, B. R. THOMPSON.

Oil-well cementing, formation testing, Perfo-testing, squeeze tools, bulk cement equipment.

(Check 489 for Further Data on Above)

Specialty Sales & Service, Inc.

Tulsa, Okla.

20-22 Kansas Building

In attendance

M. L. WALRAVEN, JR., O. E. DEMPSEY, M. LES WALRAVEN, R. S. WILLIS, C. L. ENGLISH.

Dempsey hydraulic subsurface oil-well pump, a hydraulically operated bottom-hole oil-well pump, consisting primarily of an engine—or fluid—actuated power piston connected through a packing arrangement to a standard pump or production piston. The pumping action is basically the same as that of a sucker-rod pump, except the stroke is closely controlled and the hydraulic power fluid does away with the sucker rods. The power fluid is supplied by a standard high-pressure surface unit and uses well-production fluid as the operating medium. This pump is designed to meet any type pumping condition. It features a new method using an old principle in pumping fluid from any depth, and emphasizes simplicity of design, operation, and maintenance with high volumetric efficiencies.

Willis rotary adjustable flow beans, loaded with six orifices (chokes) ranging in any sizes from 1/64 in. to 64/64 in. All beans are tested at 15,000 lb. working pressure and different orifices can be introduced into the flow stream in a matter of seconds. No well shutdown is necessary. The Willis rotary adjustable flow bean reduces wear, prevents waxing and freezing, is of heavy construction, and can be applied to any installation.

(Check 490 for Further Data on Above)

Square D Co.

Milwaukee, Wis.

60-61 Oklahoma Building

In attendance

F. H. ROBY, C. L. HULL, RAY WALKER, W. H. BODLE, EDMONDS LOVE, W. E. NEAL.

Circuit-breaker power panel, multibreaker lighting panel, display of circuit breakers and switches of the type commonly used in industry, display of plug-in feeder duct, motor-control accessories such as push buttons, limit switches and pressure switches.

Section of a control center panel, display of switching relays and timers, displac of a.c. contactors and starters, display of manual and magnetic starters, fusible switch type pumping plant panel frequently uesd in petroleum industry.

Circuit-breaker combination starter in an enclosure suitable for hazardous locations, circuit-breaker combination starter mounted in Crouse-Hinds "Top Hat" enclosure, two operating displays of oil-tight push buttons, operating display indicating circuit protection.

(Check 491 for Further Data on Above)

Stacey Brothers Gas Construction Co.

Cincinnati, Ohio

Block 11

In attendance

A. E. HARVEY, A. A. AZAR
E. N. BONNETT, JAMES J. HOGAN

Miniature model oxygen generating plant; technical information on aluminum welding; flow charts on oxygen plants; heavy aluminum welding specimens; gasholder, high-pressure tanks, purifiers.

(Check 492 for Further Data on Above)

Steel Improvement & Forge Co.

Cleveland, Ohio

229 Oklahoma Building

In attendance

C. H. SMITH, JR., H. A. ZIMMERMAN, P. A. DOMINO, T. L. MOORE, H. M. DUNN.

Forgings for use in boilers, valves, well heads, drilling tools, refinery equipment, couplings, and fittings.

Boiler and tank accessories (manhole and handhole plated), and Gruv-Seal ring gaskets.

This forging company, now in its thirty-fifth year, has been active in the petroleum industry for most of that time and has had active representation in the Texas-Oklahoma area since 1930. A pioneer in the forging of stainless steels and other special alloys, it has participated in the solving of many corrosion and complicated design problems. Personnel is available at the exhibition to discuss adaptation of forging to all manufacturers' equipment.

(Check 493 for Further Data on Above)

Stentz Equipment Co.

Tulsa, Okla.

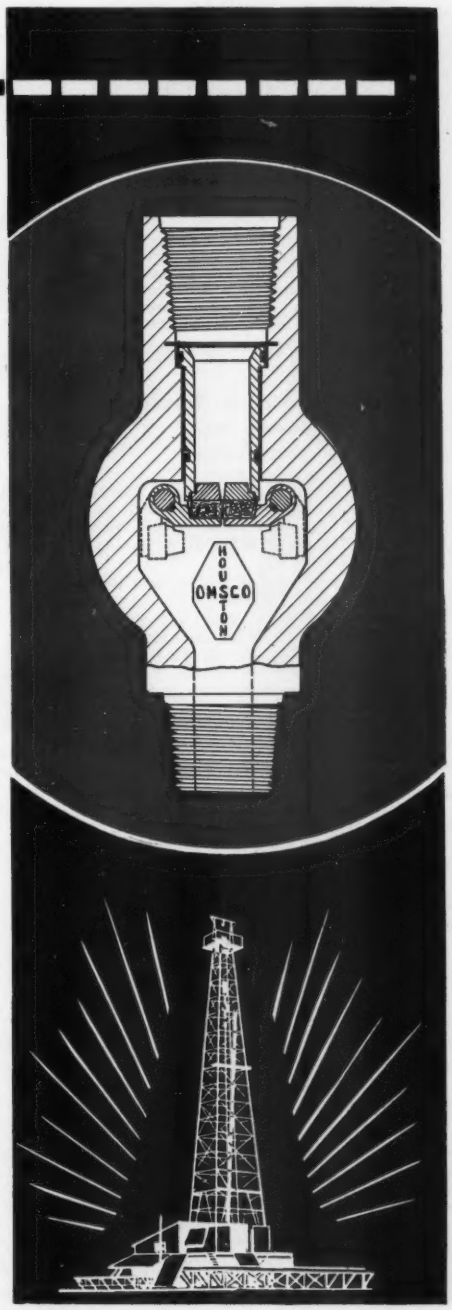
83-84-85 Kansas Building

In attendance

S. L. STENTZ, CARL HAMPLE, HARRY KAINDL, W. C. MEEKS, JR.

Seco automatic tank shut-off valves and shut-down switches.

OMSCO KELLY VALVE



NO FRICTION AREAS TO STICK OR "FREEZE" . . . REQUIRES NO LUBRICATION

10,000 lbs. test pressure. Sleeve and rubber are interchangeable. Main body heat treated alloy steel. Ram shaft rust-proof K. monel. The OMSCO Kelly Valve can be completely redressed in the field. SOLD THROUGH SUPPLY STORES.

OILFIELD MACHINE & SUPPLY COMPANY

6418 Esperson St. P. O. Box 2172
HOUSTON

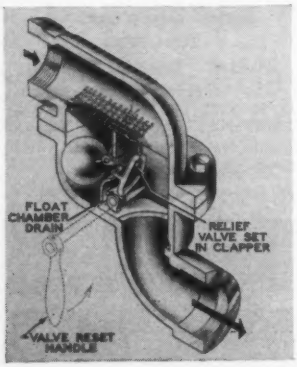
Export Representative: R. S. Stokvis & Sons, 17 Battery Place, New York

Louisiana-Mississippi—J. J. (Doc) McCann, P. O. Box 691, Lake Charles

Manufacturers of Drill Collars, Well Purgers, Drilling Safety Valves, Wire Line Valves 2½" — 3" and 4", Wire Line Reels and Blowout Preventers.

HOUSTON OMSCO

The Seco automatic tank shutoff valve is designed for use in pipe-line gathering systems. This valve eliminates air bleeders, operates wide open, and tanks are completely empty when it automatically closes, assuring immediate and tight shutoff. When used with the Seco automatic shutdown



Cutaway view of Seco automatic tank shutoff valve

switch, pipe-line gathering-system tank runs become completely automatic. The use of these controls permits the gathering system to remain completely filled with oil at all times, which eliminates vapor locks and reduces pipe line maintenance.

(Check 494 for Further Data on Above)

Sterling Packing & Gasket Co.

Houston, Tex.

7 Park Lane

In attendance

C. A. POLK, J. L. DORE, C. L. FENITY, R. C. MANDEVILLE, C. D. FROBERG, A. G. WILCOX, J. O. MEYNIER, A. L. BRASSEUX, PAUL R. NORDSTROM, A. L. GAUT, FRED J. BARNETT.

Drilling, producing, pipe-line, and refinery packings and gaskets.

Shown for the first time are the new Sterling ZW Series of plastic packings. A departure from the common conception of plastic packing, ZW is extremely inert to all solvents and gases; retains its flexibility and superb lubricating qualities from minus 30° to 500° F. ZW plastic packings are available in three forms: stick, in braided jacket, and molded.

Also featured are new metallic rod packing; Tattle Tale liner assembly; Sterling A.P.I. ring gaskets; mud-seal cage, spun metallic gaskets; die-formed packings; and other leading packings and gaskets in the Sterling line.

(Check 495 for Further Data on Above)

Stewart & Stevenson Services, Inc.

Houston, Tex.

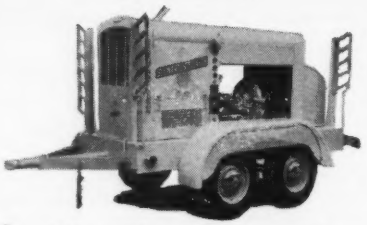
Block V

In attendance

JOE MANNING, E. E. CHILDRESS, H. A. TROTTER, F. W. SMITH, CARSEY MANNING.

Diesel and gas-engine-driven generator sets, electric-power units, rig-lighting plants, utility units.

This company, the nation's largest distributor of General Motors engines, has recently developed self-contained generator sets and utility units which are mounted on either two-wheel or four-wheel trailers which can be moved to any point where electric or auxiliary power is needed. Originally developed for the road-show business, which requires compact mobile generator sets, these units are now being introduced to the drilling, pipe-line, and producing divisions of the petroleum industry.



On exhibit is this recently developed centrifugal pumping unit mounted on a four-wheel trailer, for handling water, waste oil, drilling mud, or other fluids

The units are designed to meet a wide variety of applications, and are powered with either G.M. diesel engines or Continental Red Seal gas-gasoline engines. Sizes range from 3 to 350 kw.

(Check 496 for Further Data on Above)

Stoody Co.

Whittier, Calif.

43 Silver Lane

In attendance

GEORGE F. STALEY, H. W. SHARP, A. W. ANDERSON, CHARLES MYROW

Oil-field equipment on which Stoody hard-facing alloys are used.

(Check 497 for Further Data on Above)

Subsurface Engineering Co.

Tulsa, Okla.

23 Scientific and Technical Building

In attendance

FRANK PURDUM

Bottom-hole-pressure testing instruments, bottom-hole-sample instruments, micrometer chart reader, laboratory analysis equipment.

(Check 498 for Further Data on Above)

Sun Engineering Co.

Oklahoma City, Okla.

87 Oklahoma Building

In attendance

TED G. HARRINGTON, LLOYD R. HOPEMAN

Sun lube-oil filters and fuel-oil filters. The exhibit features the new Sun dual-flow filters designed and engineered for positive lubricating-oil filtration on all types of power units. A release valve is installed in the oil inlet line to regulate the filtering oil to the proper pressure and to bypass a surplus of oil through an annular space in the outer jacket. The heat from the surplus oil warms the inner unit and maintains the correct temperature for best filtration. The diesel-fuel filter heats the fuel by means of a hot water heater connection with the engine's radiator, increasing the filter efficiency.

The new Sun Dual-flow lubricating-oil filter

(Check 499 for Further Data on Above)

Synchro-Start Products, Inc.

Chicago, Ill.

164 Oklahoma Building

In attendance

WM. J. WILLIAMS, C. A. GENSKE.

Automatic engine-control systems—solenoids, overspeed governors, engine safety stop and alarm sets, engine control switches and relays.

Modern oil-field operation is the theme of this working model display, which has miniature working models of an oil derrick with well pump and a pump house containing a standby generator set. Power lines from the pump house fade back into a 5 ft. by 8-in. mural of an oil field which is set in a deep shadow box. Periodically, cloud effects create a storm, the scene darkens, and lightning strikes with a brilliant flash and roll of thunder, putting the pumps out of operation. Synchro-Start automatic engine controls immediately go into action and reestablish operation. This exhibit demonstrates the economies that can be made through modern automatic equipment in the oil industry.

(Check 500 for Further Data on Above)

Synthane Corp.

Oaks, Pa.

74-75 Oklahoma Building

(Check 501 for Further Data on Above)

Tal Bender, Inc.

Milwaukee, Wis.

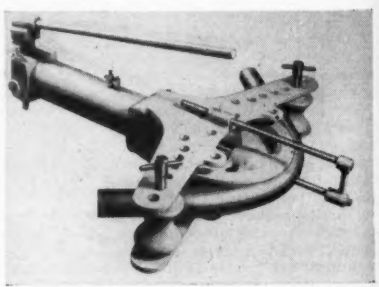
256 Oklahoma Building

In attendance

E. T. TAL

Hydraulic bending equipment; copper tube benders.

Exhibiting a new portable tube bender especially developed for radiant heat, panel



Tal hydraulic bender

heat, and bending coils in copper tubing for many other requirements. The bender can be worked on the floor, bench, or against a wall. Operation is simple and bends free of distortion, flattening, kinks, or wrinkles in hard or soft copper tubing and can be made by inexperienced help.

Tal hydraulic benders displayed are designed for bending pipe cold, without filling, up to double-extra-heavy from ⅜ to 2

J. R. HORRIGAN
CONSTRUCTION CO.
Pipe Line Contractors
Commerce Bldg.
Capitol 9022
HOUSTON, TEXAS

in. and over 2 in. standard pipe in one single operation without moving the pipe. They are easily set up without bolting, and are adaptable to many jobs requiring the energy of their powerful pumps. Because of the new bend indicator, the exact degree of bend can be made by inexperienced persons.

(Check 502 for Further Data on Above)

Taylor Forge & Pipe Works
Chicago, Ill.
Block 9
In attendance
PAUL R. BUSH, STANLEY GILL

Welding fittings and flanges in carbon steel, stainless steel, Monel, Inconel, nickel, copper, and aluminum; spiral pipe.

(Check 503 for Further Data on Above)

Taylor Instrument Companies
Rochester, N. Y.
31-32-87 Scientific and Technical Building
In attendance
F. S. WARD, A. J. FLEIG, R. E. CLARRIDGE, R. E. FLIKKEMA, G. E. HOWARD, R. VAN DE CARR, O. F. HUNTER, A. R. WAGNER, R. E. BAILEY, J. C. LALEY.

Transet controller; Taylor liquid-level transmitter; a complete line of aneroid manometers, including new stainless steel 300 lb.; recording flow meter; Pitot Venturi tube; Taylor calibrated orifice flow element; recording low meter with integrator; mercury manometer.

Since 1940 Taylor has greatly expanded its line of flow instruments and for that reason its exhibit is built around the flow line. Aneroid manometers with ranges of 1,500 lb. and 300 lb. are on exhibit as well as the new stainless-steel model. A new transmitter was recently announced, factory-calibrated to accuracies to within one-half of 1 per cent of scale range. Extreme linearity of action is assured since construction of the simple single-bellows transmitting mechanism is identical with that of the receiver mechanism. Adjustments are easily made. This instrument is in operation at the show.

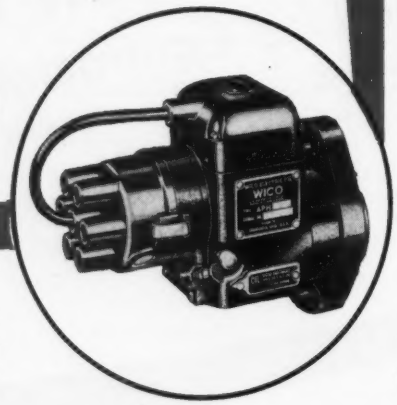
All of the instruments on exhibit are covered by suitable bulletins and catalog parts.

(Check 504 for Further Data on Above)

DEPENDABLE

MAGNETO IGNITION BY

WICO



IF you need tough, reliable, economical magnetos for any kind of a single, two, four or six cylinder engine, there's a WICO that will do the job superbly. Toughness is designed and built into every WICO, by the largest maker of magnetos exclusively, and the originator of magneto mass production methods. Every WICO, for whatever use, is built to the highest aircraft standards.

Light portable engines for any purpose or heavy duty internal combustion spark-ignited engines — all will get the clean, hot, steady spark essential to their perfect operation if WICO magnetos are used. Small or large flywheel models, geared or gearless conventional magnetos, base, flange, or vertical mounted — WICO makes all varieties, all equally reliable and engineered for greatest economy and efficiency.

WICO has complete facilities for the design and manufacture of all types of magnetos, maintains an experienced field service organization, and has more than two thousand dealers in the United States and Canada. Wico Electric Company, West Springfield, Massachusetts.

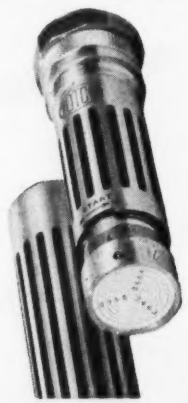
Technical Oil Tool Corp., Ltd.
Los Angeles, Calif.
192-193 Oklahoma Building
In attendance
J. B. WOOD, H. H. PETERS
P. T. BANNERMAN

Totco recorder for controlled vertical drilling, Totco directional recorder, Totco 1⅞ in. C.V.D. recorder for small-bore drill collars, Totco chronometric tachometers.

Totco proudly announces two new recorders to take their places beside the tried and proven Totco C.V.D. recorder.

First, a slender model, 1⅞ in. o.d. go-devil, of the C.V.D. recorder. Even though the bore of the tool joints, drill collars, etc., may be as small as 1½ in., there is the same simplicity of operation, accuracy of results and time-saving features as in other models.

Second, a 100 per cent mechanical Totco directional recorder which eliminates battery or film worries. This directional recorder utilizes the well-known features of the Totco C.V.D. recorder and incorporates in addition a highly-sensitive compass built for field conditions. Following in line with the time-saving feature initiated



Totco recorder for controlled directional drilling

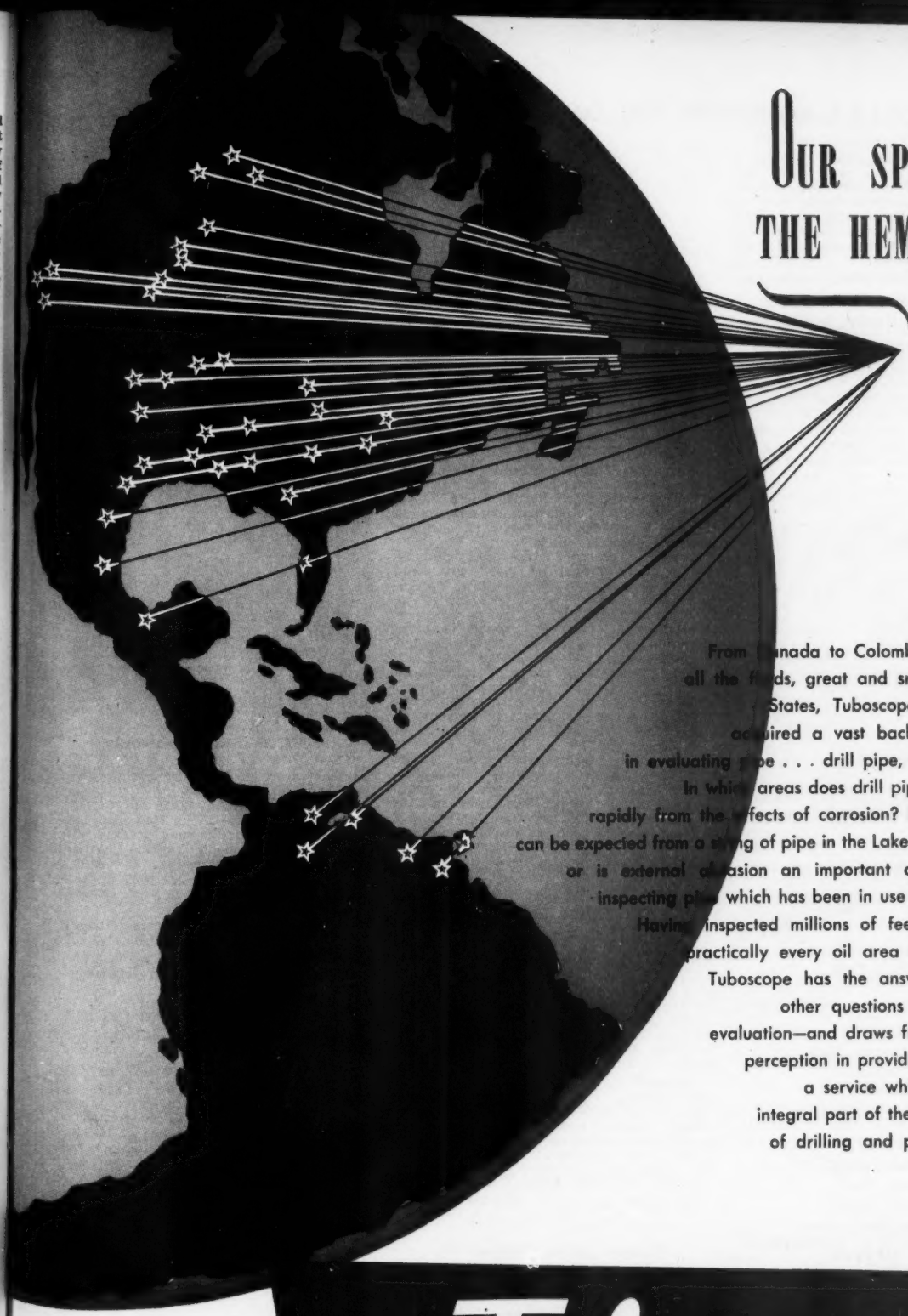
by Totco years ago, this directional recorder is designed to drop inside the drill stem, coming to rest in a nonmagnetic section of the drill collar.

(Check 505 for Further Data on Above)

Telematic Corp.
Chicago, Ill.
64 Kansas Building
In attendance
J. D. KETTERING, E. T. SLIWINSKI

Remote-control liquid-level gages.

The Guardian liquid-level gage displayed is described as a modern, economical, efficient, and safe method of measuring the contents of working tanks. An instantane-



OUR SPHERE IS THE HEMISPHERE

From Canada to Colombia and throughout all the fields, great and small, of the United States, Tuboscope technicians have acquired a vast backlog of experience in evaluating pipe . . . drill pipe, tubing and casing. In which areas does drill pipe deteriorate most rapidly from the effects of corrosion? How much footage can be expected from a string of pipe in the Lake Maracaibo region, or is external abrasion an important consideration when inspecting pipe which has been in use in the Gulf Coast? Having inspected millions of feet of pipe used in practically every oil area in this hemisphere, Tuboscope has the answers to these and other questions pertaining to pipe evaluation—and draws freely on this broad perception in providing for the industry a service which has become an integral part of the modern technique of drilling and producing oil wells.

Tuboscope

DIVISION OF

TUBULAR SERVICE & ENGINEERING CO., HOUSTON, TEXAS

Branch Offices: Beeville, Odessa, Wichita Falls, New Iberia, Shreveport, Natchez, Oklahoma City, Casper

Ventura, California for West Coast, U. S. — Pittsburgh for Eastern U. S. Caracas, Venezuela for South America

ous reading of any individual tank in a field of tanks is made by turning the selector dial to the desired tank number and pushing a button. The liquid level of the tank selected is instantaneously flashed upon the Telematic indicator panel in lite-up numerals, giving feet, inches and fractional one-eighth inches.

(Check 506 for Further Data on Above)

Templeton, Kenly & Co.

Chicago, Ill.

42-43 Texas Building

In attendance

FRED H. ZIMMERMAN, ARTHUR C. TEMPLETON, JOHN B. TEMPLETON.

Simplex oil-field jack and other ratchet lowering jacks; riggers' jack; a pair of geared ratchet lowering jacks, one of which

No. 303 Simplex Jenny center-hole hydraulic puller pulling valve seat from slush pump

has a toe lift on the right-hand side, the other a toe lift on the left-hand side; pull-rod jack; hydraulic jacks (3 to 100 tons); journal jacks, including the new series with aluminum housings; standard-speed jacks; screw jacks; push-and-pull jacks, including the Util-A-Tool; Simplex Jenny center-hole hydraulic pullers (30 to 100 tons).

(Check 507 for Further Data on Above)

Texoma Supply Co.

Tulsa, Okla.

69-70-71 Oklahoma Building

In attendance

RAY H. SMITH

Exhibiting oil-well pumping equipment.

(Check 508 for Further Data on Above)

Texsteam Corp.

Houston, Tex.

33 Park Lane

In attendance

L. Y. MUSGROVE, O. B. SCHOENFELD, W. S. WOOD, J. C. KENDIG.

Texsteam chemical injectors, gas, air, or beam drive; Texsteam safety and relief valves; Texsteam high-pressure line regulator.

(Check 509 for Further Data on Above)

Thermoid Co.

Trenton, N. J.

28 Silver Lane

In attendance

A. F. MATHEIS, NORRIS GREEN

Rotary hose, slush-pump hose, miscellaneous types of hose, brake lining, brake blocks, wire-line savers, wire-line turnbacks, stuffing-box rings, molded products, miscellaneous products for the oil field.

(Check 510 for Further Data on Above)

Thew Shovel Co.

Lorain, Ohio

Next to Hall of Science

In attendance

D. G. SAVAGE, J. L. BELTZ, G. H. THORGESON, T. H. FORTNER.

Model TL-20 Hoe mounted on wide-gage crawler; rubber-tire Moto-Crane; Lorain-41 crawler dragline; Moto-Crane, rubber-tire, 20-ton capacity.

(Check 511 for Further Data on Above)

Thompson Pump Co.

Okmulgee, Okla.

132 Oklahoma Building

In attendance

FRANK WILCOM, R. D. THOMPSON.

Thompson super-heavy-duty, self-aligning, double-plunger-insert, sand-scraper-type pump; Miracle stripper pump $1\frac{1}{16}$-in. bore; Miracle stripper combination pump $1\frac{1}{16}$-in. bore; Miracle deep-well stripper metal-to-metal $1\frac{1}{16}$-in. bore.

Thompson inverted-type, self-aligning, double-plunger pump equipped with sand flush valve and plunger seal-off; Thompson top-hold-down insert pump; "B" Type P & T sand-proof tubing pump.

Seating devices, perch valves, inverted traveling barrel types, and traveling plunger types in all sizes and styles.

Monel and bronze pump is made from the metals most resistant to chemical and corrosive conditions, and is designed to cut pulling expense, reduce replacement of pump and parts, and lower lifting cost to a minimum.

Made up in oversize capacity and featuring the company's double, self-aligning, closely ground bronze plungers, the pump is said to give the utmost efficiency in reducing wear and friction, particularly where chemical and corrosive conditions exist.

(Check 512 for Further Data on Above)

Thornhill-Craver Co.

Houston, Tex.

67 to 72 Kansas Building

In attendance

C. W. THORNHILL, H. E. THORNHILL, KENNETH CRAVER, J. K. SKEEHAN, EARL GRISSOM, J. C. HEMBREE, W. W. WALMSLEY, M. E. MOORE, F. VAN MATRE, W. A. HAMMANN, J. E. LOEFFLER, O. L. NORDIN.

Malleable iron Unibolt couplings, tees and crosses.

Steel Unibolt couplings, "Big Inch" couplings, welding neck couplings, pipe-line couplings, scraper-trap couplings, tees, crosses, cage nipples and beans, christmas tree wing valves, chokes (adjustable and positive), Flexi-Ball joints.

(Check 513 for Further Data on Above)

Timken Roller Bearing Co.

Canton, Ohio

149-150 Oklahoma Building

In attendance

W. B. MOORE, M. H. KUHL, S. M. WECKSTEIN, H. W. TRUMP, S. C. PARTRIDGE, P. C. POSS, W. F. ANDERSON, H. B. LILLEY, C. H. McCOLLUM, D. S. KLIPPERT, W. E. TAGGART, G. E. REED, R. L. WILSON, C. L. CLARK, RALPH FRERICHS, CARL GIRTLER.

Timken tapered roller bearings, fine alloy steel, detachable rock bits.

The display features a comprehensive presentation of Timken bearings, steel, and seamless steel tubing against the background of a giant world map on which all the oil-producing areas are shown.

An innovation at this year's show is a roving Timken photographer whose candid shots of the crowd are posted on a bulletin board and given free to each subject.

(Check 514 for Further Data on Above)

Tool Steel Gear & Pinion Co.

Cincinnati, Ohio

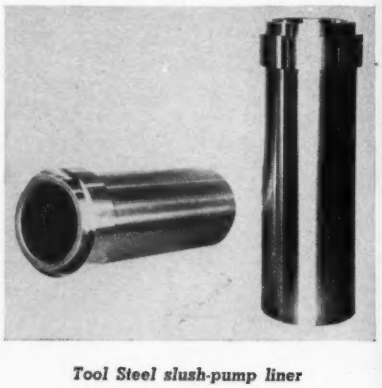
29 Park Lane

In attendance

C. R. BURRELL, H. H. KUMLER, L. T. ELLIOTT

Slush-pump liners, booster-pump liners, sprocket rims, crown and traveling-block sheaves, wash pipes.

Featured in this exhibit are the Tool Steel slush-pump liners which have the



Tool Steel slush-pump liner

unique feature of a greater hardness than materials formerly used, this full hardness being to a depth sufficient to cover the entire life of the liner. They are highly precision made and honed internally to produce a supersmooth surface that will give the longest possible life. It has been only in the past few years that this special hardening process has been extended to oil-field products.

(Check 515 for Further Data on Above)

Torrington Co., Bantam Bearings Division

South Bend, Ind.

185-186 Oklahoma Building

In attendance

R. T. DUNLAP, H. C. OLSON, G. E. MARVEL, J. A. TOTH, LEO A. TOTH

The exhibit consists of the types of anti-friction bearings manufactured for use in oil-field equipment. The types of bearings on display include self-aligning, spherical roller, tapered-roller radial, straight-roller

Angular contact ball thrust bearing used in high-speed rotary tables

radial, heavy-duty needle roller, ball radial, straight roller and conical roller thrust bearings. In addition, the display features a large angular contact ball thrust bearing

—the development of which was pioneered by Torrington for use in modern, high-speed rotary tables.

(Check 516 for Further Data on Above)

Trackson Co.
Milwaukee, Wis.
Blocks C and E

In attendance
W. H. STIEMKE, L. E. DAUER, G. E. ALLEN, A. B. MORSE, L. C. FRANK, N. M. ERDAHL, J. J. KEYES, WM. GRAU, M. A. THOMASON, O. W. COLE.

Trackson MD8 pipe-layer, Trackson T-6 "Traxcavator," Trackson PD4 pipe-layer and anglefiller, Trackson CD4 swing crane.

On display are: An MD-8 pipe layer, a big and efficient tractor side crane powered by a Caterpillar D-8 tractor, which provides power, speed, and traction for unusually hard service. It will lift, lower, carry, and bend pipe and operate easily in close quarters.

A T-6 "Traxcavator," a powerful tractor-excavator with high production capacity for big jobs, compact and portable enough to do small jobs profitably.

A PD-4 Pipe-layer with Anglefiller, a combination that offers utility and economy for pipe-line construction, maintenance, and repair work, as well as dirt moving and heavy lifting service around tank farms and refineries.

A CD-4 Swing Crane, a rugged, versatile, revolving-boom crane powered by the Caterpillar D-4 track-tpye tractor. It has a lifting capacity up to 6,000 lb., compactness, and track-type tractor mounting which enables it to operate in close quarters, turn sharply, and work and travel on floors, pavement, or unimproved ground transporting its loads when desired.

(Check 517 for Further Data on Above)

Tractor Equipment Division,
Gar Wood Industries, Inc.
Block 13

Treat-Rite Chemical Co., Inc
Nowata, Okla.
36 Kansas Building

In attendance
PAUL DELOZIER, GEO. HAYWORTH

Water-treating system, H&T water-treating equipment.

This company specializes in "Chemicals with Service" for the treatment of water for secondary recovery, salt water disposal, boiler water, cooling water, raw-water ice plants, down-hole treatments for the prevention of scale and corrosion, or formulas made to customer specifications. It is the exclusive representative for H & T water-treating and softening equipment.

(Check 518 for Further Data on Above)

Tretolite Co.
St. Louis, Mo.
69-70 Scientific and Technical Building

In attendance
K. R. FARR, M. J. MULLALLY, C. C. ROGERS, H. S. HORTON

Tretolite Solvo and Kontol.

A model chemical dehydrating plant is shown, together with a display of chemical reagents for dehydrating and desalting crude oils.

(Check 519 for Further Data on Above)

Triangle Blue Print & Supply Co.
Tulsa, Okla.
214 Oklahoma Building

In attendance
L. C. BURCHFIELD, H. O. WILKERSON, FRED F. ROSE, R. P. PERRAULT, LEONARD POTTS, M. F. CORBIN.

Keuffel & Esser drawing equipment, Ozalid products, Spencer microscopes, Gurley surveying instruments, Post drawing equipment, American Paulin barometers, Ultra-Violet Co.'s Mineralight.

The type of equipment shown is that used in the field and the office by the engineer, geologist, geophysicist, paleontologist, draftsman, and reproductionist.

The companies represented are leading manufacturers of this type of equipment. Shown are drafting supplies made by the Keuffel & Esser and Frederick Post companies; surveying instruments made by the Keuffel & Esser and Gurley companies; surveying barometers manufactured by the American Paulin System; microscopes (Spencer), by American Optical Co.; Mineralight, by Ultra-Violet Products Co.; and reproduction machinery and materials by the Ozalid Division of General Aniline & Film Corp.

(Check 520 for Further Data on Above)

Trimont Manufacturing Co.
Division of Aetna Industrial Corp.
Boston, Mass.
53 Texas Building

In attendance
ARTHUR E. KEATING, JOE BALLEM, C. W. BORNEMAN.

Complete line of Trimo pipe wrenches and pipe tools.

(Check 521 for Further Data on Above)

Trinity Portland Cement Division
General Portland Cement Co.
Dallas, Tex.
85-86 Oklahoma Building

In attendance
J. A. BARNES, U. P. KENNEDY, I. F. BINGHAM, H. L. MOSELEY, J. B. PARROTT.

Cements for every oil-field and construc-

While attending the International Petroleum Exposition, you are cordially invited to visit our exhibit in Booth 168 of the Oklahoma Building.

We shall also be happy to have you inspect our Manufacturing Plant and Foundry in Tulsa.

NELSON Electric MANUFACTURING CO.

217 NORTH DETROIT **TULSA, OKLAHOMA** TELEPHONE 2-5131

MANUFACTURERS OF

Explosion Proof Motor Controls
Junction Boxes and Enclosures
Circuit Breakers & Lighting Panels
Oil Field Motor Controls
Automatic Pipe Line Sampling Devices
Cathodic Protection Equipment
Switchboards
Instrument & Control Panels
Unit Substations

tion need: Trinity Inferno portland cement, Trinity high early strength portland cement, Trinity standard portland cement, Trinity gel-cements, Trinity white portland cement.

Trinity Inferno has been specially developed for deep oil-well cementing operations under conditions of high temperature and pressure. Inferno has a low initial viscosity and pumps easily when mixed 16.0-17.0 lb. per gallon.

Trinity High Early Strength—A true portland cement manufactured for use where speed is important—for both oil-well cementing operations and oil-field surface construction.

Trinity Standard Portland — A uniform high-quality portland cement. Trinity Standard exceeds U. S. Government and A.S.T.M. specifications for this type of cement by a wide margin. It is an ideal cement for surface construction as well as oil-well cementing operations.

Trinity Gel-Cements—On special order, Trinity can mix at the mill a specified percentage of bentonite with standard portland cement, high early strength cement or Inferno.

Trinity White—The whitest white cement, a true portland cement. It fills the need for every type of ornamental concrete and terrazzo construction, wherever oil companies operate.

(Check 522 for Further Data on Above)

Truck Equipment Division, Gar Wood Industries, Inc.

Block 13

Tubbs Cordage Co.

San Francisco, Calif.

Block 9

In attendance

W. I. ATHERTON, ROBERT P. HURST

Manila cordage items commonly used in oil-field operations, and display of knots and fancy rope work.

The exhibit features cordage items which are in constant use in oil-field operations. These include extra superior manila catlines and manila drilling cables. Also on display is a large framed knot board under glass on which are shown all of the knots and splices used aboard ship in the days of sail as well as those used in oil-field rigging today. Free copies of the new Tubbs knot book "Knots and Their Use" are distributed.

(Check 523 for Further Data on Above)

Tube Turns, Inc.

Louisville, Ky.

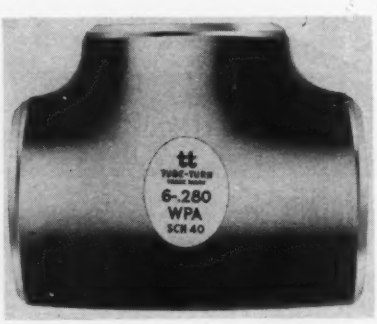
132-133 Texas Building

In attendance

J. G. SEILER, J. W. GREEN, T. H. PIKE, JR., R. S. TYLER, JR., CARL McLAUGHLIN, J. D. MATTIMORE.

Welding fittings and flanges, carbon steel, stainless steel, aluminum, chrome moly, nickel.

(Check 524 for Further Data on Above)



A product of Tube Turns, Inc.

Tuboscope

Houston, Tex.

30 Park Lane

In attendance

J. W. BOZEMAN, V. D. GOINS, R. C. LEWIS, HARRY BOZEMAN, B. H. PICKARD, C. R. O'DELL.

Various types defects found in both new and used oil-field tubular goods. A new Tuboscope instrument including the latest developments, such as the internal depth contour gage and a new magnifier designed to change the magnification of defects internally.

(Check 525 for Further Data on Above)

Tulsa Paper Co.

Tulsa, Okla.

91-92 Kansas Building

In attendance

AL JOCHEM, JIM BODDY, ELMER LAWYER, ROLAND KIRKLEY, BUD BAKER, JACK TAYLOR.

Exhibiting paper supplies for the oil industry.

(Check 526 for Further Data on Above)

Tulsa Rig & Reel Manufacturing Co.

Tulsa, Okla.

1-2 Kansas Building

(Check 527 for Further Data on Above)

Tulsa Shock Absorber Co.

Tulsa, Okla.

17 Silver Lane

In attendance

CHARLES F. TOWER, C. B. McALLISTER, CARL JOHNSON

Polished rod and pitman beam-type shock absorbers.

Tulsa shock absorbers, the exhibitor says, have never failed. Any roustabout can install one in 15 minutes, and it requires no servicing. They are designed to carry the weight of the well on rubber, thereby cushioning the entire pumping equipment, and reducing rod breakage up to 98 per cent.

Wells of any weight can be equipped with Tulsa shock absorbers by using the proper durometer-tested rubbers, which last from 6 months to 3 years.

These shock absorbers are made in two styles—polished-rod type, which is installed on rod hangers; and the beam type which is a combination shock absorber and pitman stirrup bearing. Both are being operated on wells from 5,000 to 50,000 lb., running up to 30 s.p.m. with a 72-in. stroke.

(Check 528 for Further Data on Above)

Tulsa Tool & Pump Co.

Tulsa, Okla.

57-58 Texas Building

In attendance

DENNY MORRISON, JERRY REARDON, ROY SMITH

Myers industrial and domestic water systems, power lawn mowers, electric saws, Planet Jr., garden tractors, Myers spray equipment.

(Check 529 for Further Data on Above)

Tulsa Tractor & Implement Co.

Tulsa, Okla.

Northeast Corner of Grounds

Reo light, medium, and heavy-duty trucks, some equipped with bodies and winches.

(Check 530 for Further Data on Above)

Tulsa Winch Co.

Tulsa, Okla.

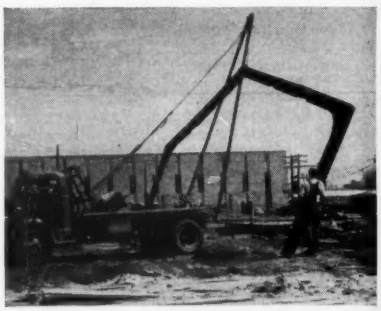
Block 3

In attendance

EDWARD A. THOMPSON, J. M. LEDTERMAN, BOB OWEN

Power winches.

The winches, which are improved over preceding models, incorporate the Tulsa Winch back-off brake and clutch, and are designed for use on the smallest, as well as the heaviest, lifting, moving, and pulling jobs. The exhibit includes winches suited for both trucks and tractors, which have transmissions custom built for truck and tractor use. Winch and transmission are controlled entirely from the operator's seat. The "underslung" type winch, for trucks where the body or a tank prevents the wire line from running over top of the truck bed is also exhibited.



Tulsa Winch is used to raise steel girder in place, for one of the many new buildings erected for the International Petroleum Exposition. A complete line of Tulsa Winches is shown at the exposition

(Check 531 for Further Data on Above)

Twin Disc Clutch Co.

Racine, Wis.

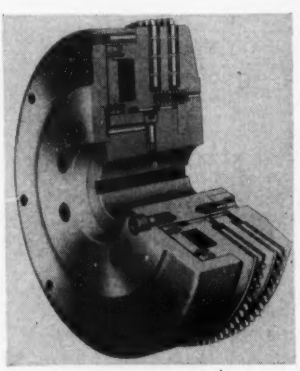
166-167 Oklahoma Building

In attendance

N. F. ADAMSON, H. A. DAVIS, WADE ESKRIDGE

Air-actuated clutch (sectioned), Model B power take-off (sectioned), small hydraulic coupling (sectioned), Model CL heavy-duty friction clutch, large hydraulic coupling, hydraulic torque converter.

Sectioned units show the Twin Disc air-actuated clutch, Model B power take-off and a small hydraulic coupling. In addition to the sectioned units, the exhibit shows the hydraulic torque converter, Model CL



Sectional view of a Twin Disc air-actuated clutch

Dependable Since 1852

THE PLANT BEHIND THE PRODUCT: The McGowan Pumps Division of the Leyman Manufacturing Corporation will give you accurate workmanship and dependable service. An experienced Engineering Department is available for information on installations and requirements. Highly efficient and ruggedly constructed, McGowan Pumps have the ability to stand up year in and year out under the most severe operating conditions. Duplicate parts, made to guage, for McGowan installations are always available to Engineers. By building good pumps and giving good service since 1852, the McGowan Division of the Leyman Manufacturing Corporation has maintained its national reputation for dependability.

Offices in Principal Cities

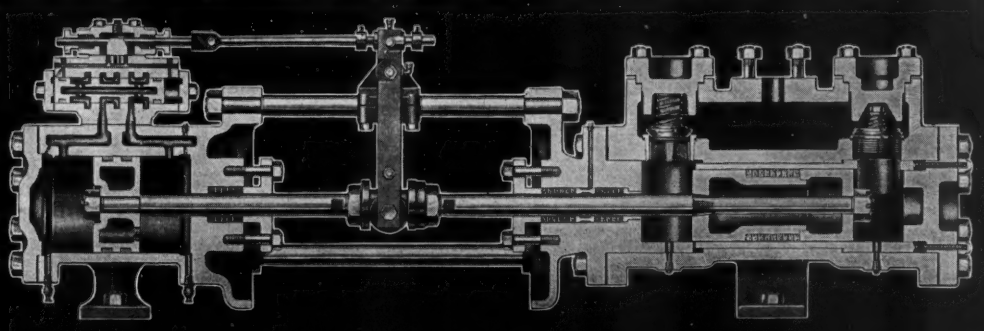
●

Warehouse stocks in Houston, Texas

FORGED STEEL

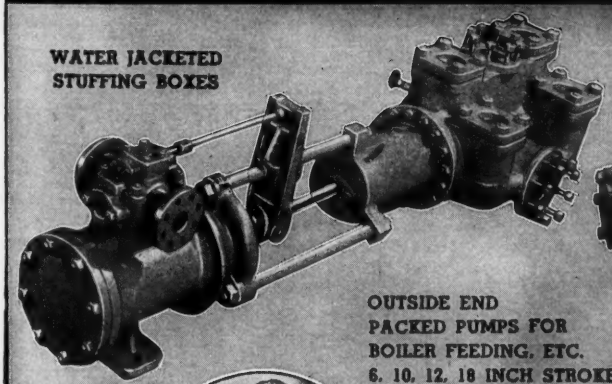
18 INCH CLOSE CLEARANCE PUMPS
TWIN SUCTION VALVES

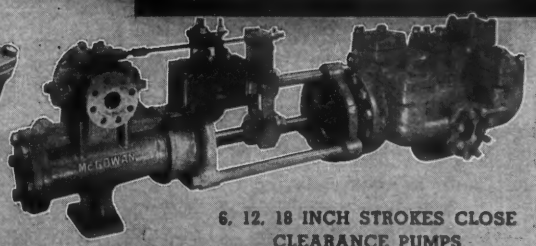
PACKED PISTON VALVE PLATE PUMPS



CLOSE CLEARANCE PUMPS

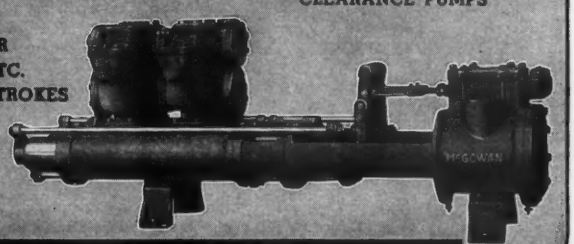
WATER JACKETED STUFFING BOXES





6, 12, 18 INCH STROKES CLOSE CLEARANCE PUMPS

OUTSIDE END PACKED PUMPS FOR BOILER FEEDING, ETC. 6, 10, 12, 18 INCH STROKES



McGOWAN PUMPS

LEYMAN MANUFACTURING CORP.

The JOHN H. McGOWAN *Co.* DIVISION

59 CENTRAL AVE., CINCINNATI 2, OHIO

heavy-duty clutch, and an exploded view of a large hydraulic coupling.

(Check 532 for Further Data on Above)

Turney Manufacturing & Engineering Co.

Houston, Tex.

Block 103

In attendance

H. L. TURNEY.

Turney Super Model 1250 drilling rig complete, powered with two GM Quad diesel engines.

(Check 533 for Further Data on Above)

Tyson Bearing Corp.

Massillon, Ohio

63 Kansas Building

In attendance

H. I. LEWIS, GEORGE C. McMULLEN, WILLIAM H. OEXLE, W. R. DAVIS, L. B. HOLT.

Tyson "All Rolls" tapered roller bearings, a cageless tapered roller bearing, particularly adapted to heavy-duty service.

(Check 534 for Further Data on Above)

Union Carbide & Carbon Corp.

New York, N. Y.

Linde Air Products Co.

Haynes Stellite Co.

237-238 Oklahoma Building

In attendance

H. H. BASSETT, R. L. LERCH

Haynes Stellite Co. and Linde Air Products Co., units of Union Carbide & Carbon Corp., feature a live demonstration showing the fabrication of Hastelloy and Multimet alloys, stainless steel, aluminum, copper, and magnesium by the Heliarc welding process. The Haynes company shows Hastelloy nickel-base alloys and Multimet high-temperature alloys. Photographs and sample parts showing the various methods by which the alloys can be fabricated are exhibited. A display of hard-facing alloys and several typical oil-field parts that have been protected by hard facing are included.

In addition to the actual demonstration of Heliarc welding apparatus, the Linde company displays flame-priming and flame-gouging equipment. A portable powder-cutting setup, including the Oxweld portable powder dispenser and a manual powder-cutting blowpipe are shown. Also included are items of standard oxyacetylene apparatus and accessories.

(Check 535 for Further Data on Above)

Union Chain & Manufacturing Co.

Sandusky, Ohio

37-38 California Building

In attendance

E. F. EMMONS, E. P. McCUNE, RICHARD MULLANEY, JOHN CASTLEBERRY, CLIFF PILKEY.

Full lines of Union A.P.I. oil-field chains, Union machine finished roller chain, Union Sprockets, Union Silent Chains, Union Silent chain flexible couplings, Union roller chain flexible couplings.

(Check 536 for Further Data on Above)

Union Tank & Supply Co.

Houston, Tex.

Block H

In attendance

G. G. BYER, L. J. DORSEY

Bolted steel tanks with aluminum decks, oil and gas separators, steel derricks, aluminum buildings, emulsion heaters and high-pressure line heaters, welded steel tanks.

Oil and gas separators will show both high-pressure and low-pressure separators, also control equipment of all kinds including the new Fisher magnetic Level-trol.

(Check 537 for Further Data on Above)

Union Wire Rope Corp.

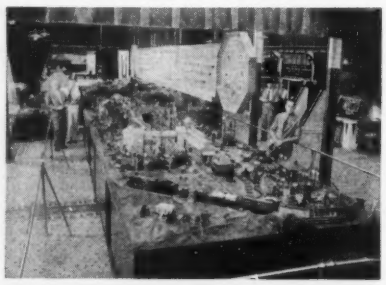
Kansas City, Mo.

80-81-82-129-130-131 Texas Building

In attendance

M. B. HANSELL, SR.

The exhibit is a representation of the wire-rope industry in miniature. The exhibit's operation is entirely automatic, two



Photograph of Union Wire Rope Corp.'s exhibit

trains contacting switches and stops to control their own movements and all loading and unloading operations, through semaphores, switches, and gates. Rods are picked up at the steel plant and delivered to the wire-rope plant, and the finished reels of rope are then loaded and delivered to the oil, mining, and logging industries.

(Check 538 for Further Data on Above)

United Chromium, Inc.

New York, N. Y.

126 Texas Building

In attendance

O. G. UNDERWOOD, J. A. WILLIAMS.

Ucilon protective coatings, Unichrome drum-lining materials, corrosion-resisting coatings.

Corrosion-resisting Ucilon protective coatings, some of which were designed especially for the petroleum industry, are featured at this booth. Also on display is a line of corrosion-resisting drum and tank-lining materials and a new plastisol material that builds up extra-thick protective coatings. The coatings have proved their ability to resist sour crude, gasoline, oil, other petroleum derivatives, acids, alkalies, salts, hydrogen sulfide, and many other corrosives.

Three types of Ucilon coatings are shown —air-drying thermoplastic coatings, baking thermosetting coatings, and ready-mixed, extra-bright aluminum paint with excellent exposure resistance at temperatures up to 450° F.

(Check 539 for Further Data on Above)

United States Steel Corp.

Pittsburgh, Pa.

136 to 148 Oklahoma Building

A combined exhibit of U. S. Steel subsidiaries showing by means of models, illustrations, cutaway sections, and full-scale samples how and where various steels and products made by the participating companies fit into the petroleum industry to best advantage.

One outstanding display shows how readily U.S.S. stainless steel can be formed into sections frequently used in the petroleum industry, with actual demonstrations of bending, forming and shearing stainless steel strip, bar and tubular stock, forming angles and other shapes and then bending them as might be required. Other stainless steel exhibits show actual applications of this versatile steel in the petroleum industry, while additional display material gives information regarding the application of the other types and grades of alloy and carbon steels made by Carnegie-Illinois Steel Corp., Columbia Steel Co., and Tennessee Coal, Iron & Railroad Co., whose special tool steels will also be included for study and examination.

A tubular exhibit illustrates and demonstrates the application and properties of National Tube Co. products such as drill pipe, casing, tool joints, oil well tubing, line pipe, and refinery still tubes. A special feature shows the underground gas storage units using 40-ft. sections of 24-in. seamless tubing fabricated into containers which are manifolded for use in supplementing regular natural gas supply.

American Steel & Wire Co. presents in a compact display a complete exhibit of the special American Tiger brand wire rope and cables used in the petroleum industry. A novel illuminated board shows how to select the most suitable rope for an application, using fatigue bend strength and abrasion resistance as the two principal criteria, while a hand sample board allows visitors to check for themselves how different types of rope construction of the same diameter afford radically different degrees of flexibility over a standard sheave. The exhibit also includes representative samples of the various electrical wires and cables used around oil rigs and refineries.

Gerrard Steel Strapping Co. exhibits and demonstrates one of its special wire strapping machines which are capable of strapping units varying in size from a small package to a carload shipment, and United States Steel Supply Co. makes available for inspection a series of specialties for the petroleum industry.

Photographs illustrate the barges and structures of various types which American Bridge Co. fabricates for producers and refiners. Cyclone Fence Division of American Steel & Wire Co. is represented by samples of various products.

Specialists from all the participating companies are in constant attendance at the exhibit and visitors will be able to get answers to their various engineering and metallurgical questions.

(Check 540 for Further Data on Above)

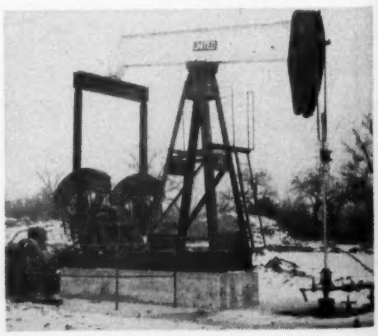
United Supply & Manufacturing Co.

Tulsa, Okla.

28-29 California Building

In attendance

L. E. WILEY, FRANK WOOD, CHAS. G.



A United Supply Co. 30-hp. pumping unit pumping from 5,718 ft. in Knox pool, Oklahoma

KING, JR., JOHN L. SMITH, H. B. GUTELIUS, JR.

Pumping units and machinery are exhibited at space southeast of California Building.

(Check 541 for Further Data on Above)

Unit Rig & Equipment Co.

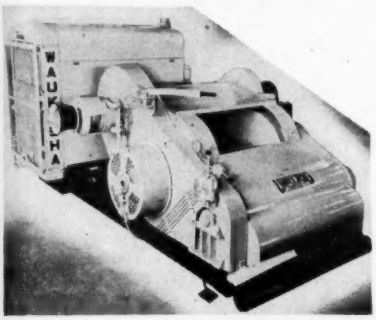
Tulsa, Okla.

Block 12

In attendance

T. A. RAMEY, RAY LOUDENBACK

U-30 drilling rig, U-15 drilling rig, U-34 drilling rig, U-34-D drilling rig, U-24 production hoist, and U-24-D production hoist.



The new Unit Rig Model U-34 was especially designed for use in today's highly competitive field of shallow well drilling. It fills the need for a light, dependable rotary rig which could be operated profitably on a small investment basis. It is conservatively rated from 3,000 to 3,500 ft. with 4½-in. drill pipe with the optional hydromatic brake, using engines of approximately 150 hp. Within the 3,500-ft. depth the U-34 has ample power, smoothness and ease of handling for fast, efficient operation and long life

(Check 542 for Further Data on Above)

Universal Oil Products Co.

Chicago, Ill.

73-74 Scientific and Technical Building

In attendance

HARVEY W. BLANKENSHIP, W. E. LEMEN

Operating model of fluid catalytic cracking process together with photographs illustrating the typical activities of Universal in research, development, engineering, refinery planning, field service, and inhibitors.

(Check 543 for Further Data on Above)

Vernon Tool Co., Ltd.

Alhambra, Calif.

Block 12

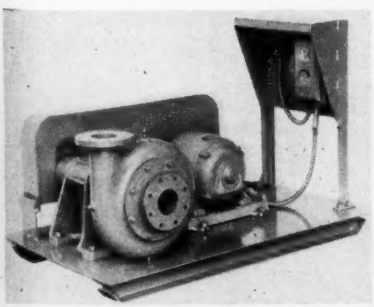


Photo of one of Vernon Tool's electro-centrifugal units

In attendance

WARD BLACKBURN, HARRY L. CORWIN

Vernon-Corwin rotary mud desander, centrifugal mud-pump unit, vibrating screen, stuffing box.

(Check 544 for Further Data on Above)

Vickers, Inc.

Detroit, Mich.

Block 3

In attendance

F. T. HARRINGTON, O. G. HOUSER, R. E. ESCH, J. ROBINSON, E. HEATH, J. W. KELLEY, E. LECORGNE, W. DRIVER, B. L. READMAN, J. R. MOSER, H. E. PAYNE.

Featuring the Vickers 18-ft.-stroke hydraulic pumper and other equipment of many applications in the petroleum industry, including hydraulic steering booster, hydraulic power pack, hydraulic cargo winch, variable-speed hydraulic transmission.

Descriptive bulletins and other literature at the exhibit graphically illustrate the wide adaptability of Vickers hydraulic equipment to the petroleum industry, providing increased efficiency, flexibility of control, compactness, simplicity of installation, minimum of maintenance.

(Check 545 for Further Data on Above)

Vapor Recovery Systems Co.

Compton, Calif.

80-81 Oklahoma Building

In attendance

FRANK V. LONG, JOHN L. SHAUNTY, A. D. SCOTTY, WILLIAM WORSHAM.

In addition to the standard "Varec" line

Low Temperature Insulation

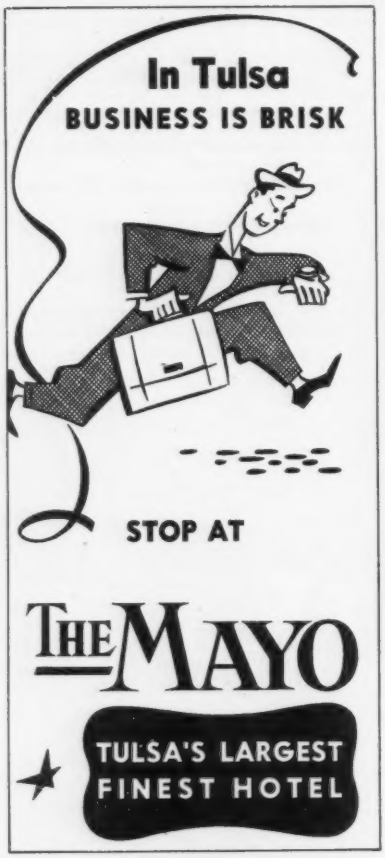
Wherever low temperature insulation is needed—refrigerated piping for de-waxing plants, cold water lines, accumulators, etc.,—specify Ozite Standard Hair Felt.

Long recognized as the industry's most efficient heat barrier. Applies easily without waste. No shape is too complex for Ozite Standard Hair Felt Insulation.

Write for Bulletin No. 300.

AMERICAN HAIR & FELT COMPANY

DEPT. N MERCHANDISE MART • CHICAGO 54, ILLINOIS



PARKERSBURG MACHINE CO. PARMACO PARKERSBURG W. VA. U.S.A.

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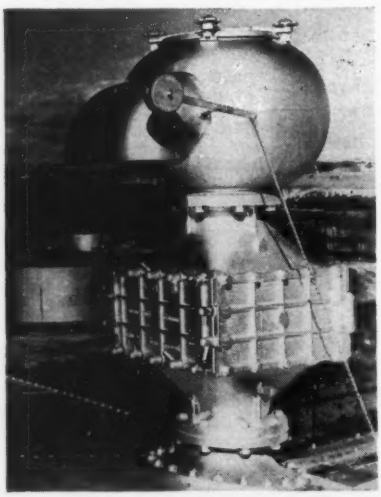
Ask Your Favorite Supply Company to Furnish You with PARMACO PRODUCTS

PARKERSBURG MACHINE COMPANY
PARKERSBURG, W. VA.

I.P.E. DIRECTORY

of venting equipment, tank fittings, and safety devices, certain cut-away sections and operating mockups of Varec equipment are displayed. Some of these are: Operational mockup of Varec approved



Installation photograph of a Varec approved conservation vent unit

automatic tank gage, operational mock-up Varec approved swing-line assembly, cut-away sections of Varec approved vapor-recovery regulator, cut-away section of the new Varec nozzle-type angle relief valve, Varec approved conservation vent unit, Varec approved pressure and vacuum relief valve, Varec approved back-pressure regulator, Varec approved vacuum relief valve, Varec approved gage and thief hole cover, Varec approved antifreeze water drawoff valve, Varec approved internal safety valve, Varec approved combination conservation vent valve and gage hatch, Varec approved sampling bottle cage.

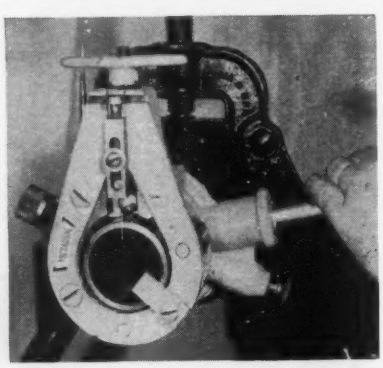
(Check 546 for Further Data on Above)

Victaulic Company of America
New York, N. Y.
90 Texas Building
In attendance
M. C. HUTCHINSON, R. W. ENGLISH, A. G. BALDWIN, G. N. LAMONT

Victaulic pipe couplings and Victaulic full-flow elbows, tees, and fittings.

Vic-Groover portable pipe groover—a new ratchet tool, grooves pipe for Victaulic couplings in half the time and by hand or with power attachment. Available in sizes ¾ in. through 4 in., it cuts perfect grooves, automatically positioned and to proper depth. It is light in weight and easily carried to isolated locations for field grooving.

(Check 547 for Further Data on Above)



Vic-Groover portable pipe groover

Viking Pump Co.
Cedar Falls, Iowa
57 California Building
In attendance
STANLEY A. PETERSEN
MARVIN L. CALVERT

Bulk-station pumping equipment featuring a new Underwriters'-approved twin unit for outside or inside location; truck-mounting pumps; hydraulic oil pumps; miscellaneous rotary oil pumps.

(Check 548 for Further Data on Above)

Visco Products Co., Inc.
Houston, Tex.
73 Kansas Building
In attendance
D. M. JACKS, J. C. BELL, F. E. COCHRAN, E. E. FERGUSON

No equipment exhibited. The company manufactures and distributes dehydrating chemicals and desalting chemicals.

(Check 549 for Further Data on Above)

Vinson Supply Co.
Tulsa, Okla.
76-77-78-79-132-133-134-135 Texas Building
In attendance
B. W. VINSON, JOE McREYNOLDS, CHARLES GRANT, ROBERT L. SHAW, GEORGE McDANNOLD, JOHN HEINZER-

Congratulations to the International Petroleum Exposition on its Silver Anniversary!

FROM THE WORLD'S LARGEST INDEPENDENT PRODUCER OF PIPE COUPLINGS

See Us! BOOTH 22 CALIFORNIA BUILDING

Showing the Famous "XL" Quality

- LINE PIPE COUPLINGS
- OIL WELL TUBING COUPLINGS
- CASING COUPLINGS

WHEELING MACHINE PRODUCTS CO.

WHEELING, WEST VIRGINIA

LING, DAVID HUTCHCRAFT, LOUIS BARNET, HAROLD MARRS.

Tube Turn welded fittings; Fisher Governor control equipment; Chase inhibited brass condenser tubes; Ohio Steel Foundry return bends and tube supports.

An example of the completeness of stocks carried by Vinson Supply Co. is this large supply of steel tubing

(Check 550 for Further Data on Above)

Wagner Electric Corp.

St. Louis, Mo.

35-36 California Building

In attendance

C. O. L. HOFFSTEN, J. S. SMITH, F. C. BURNS, L. J. DICIANNE, A. B. EMRICK, H. M. FURTNEY, A. G. VIOLA, A. C. ALLEN, L. E. LONG.

Type HEX 10-kva. distribution transformer, open-type RP-1 10 hp. motor with cutaway endplates, explosionproof type HP 10-hp. motor with cutaway endplates, splashproof type XP 7½-hp. motor with cutaway endplates, totally enclosed fan-cooled type CP 10-hp. motor with cutaway endplates, Tachograph display (recording speedometer), cutaway automotive air compressor.

A 20-ft. background display shows, in colored transparencies, the component parts of a 150-hp. explosionproof motor, and a series of progressive steps in the construction of a power transformer. Several shop views, and a number of photos of oil-industry applications are also included.

Open-type, splashproof, totally enclosed, fan-cooled and explosionproof motors with quarter-sections of the endplates cut away to show construction details, and a 10-kva. type HEX distribution transformer are exhibited. The Sangamo Tachograph, a recording speedometer for checking the operation of automotive vehicles, is also shown.

(Check 551 for Further Data on Above)

Wahlberg-McCreary

Houston, Tex.

Block 3

In attendance

J. R. McCREARY, R. M. KINKAID

Wahlberg-McCready air-gas starters.

This starter was developed to meet the need of the oil industry in production, pipe lines, and gasoline plants where multi-cylinder engines are in use as prime movers. The safety factor of gas operation is beyond the need of safe operation. It is non-leaking of any fluid that may be used as fluid power in its operation. The compactness and flexibility in the design of this starter makes it easy to adapt to any make or model of engine up to its capacity to crank.

(Check 552 for Further Data on Above)

Wall Rope Works, Inc.

New York, N. Y.

27 Texas Building

In attendance

J. LLOYD DITTMAN

The exhibit features Wall oil-field cordage developed after years of experience in the oil fields in all parts of the United States. It shows Wall Manila drilling cable, Wall Black-Gold catlines, Wall spinning lines, Wall derrick lines and, in addition, as a matter of interest, an experimental rope, No. 149. This is not yet ready for the market, but will indicate interest in the use of materials which have become available in the last few years.

(Check 553 for Further Data on Above)

Walworth Co.

New York, N. Y.

103-104-105-106-107-108 Oklahoma Building

In attendance

A. J. EICHLER, J. D. McMANUS, W. M. COMBS, E. L. CLARK, C. G. FINKLE, H. C. NANNEN, L. F. LAMBERTY, JOHN RICE, J. G. YOUNGGREN, W. H. WEBER, F. S. MARKLE, R. S. FRAYSIER, JOE KAYE, E. B. MARRS, W. C. WADSWORTH.

Items of special interest to the petroleum industry have been selected from Walworth's complete line of valves and pipe fittings. The principal feature of the exhibit is centered on valves for pipe-line service. The two major items on display are a 12-in. Series 600, gear-operated, flanged, cast-steel pipe-line gate valve with stem cover, and a 10-in. Walworth No. 1667F gear-operated lubricated plug valve.

Bronze valves, including the No. 91 globe valve for butane service; steel valves, including stainless steel, Walworth pressure-seal gate valves, and flow-line valves; iron-body valves; and lubricated plug valves are on display. Pipe fittings of steel, iron, and bronze are exhibited. Included in the line of pipe fittings is the Walseal threadless bronze fitting for making Silbraz joints.

(Check 554 for Further Data on Above)

Warner Lewis Co.

Tulsa, Okla.

59 California Building

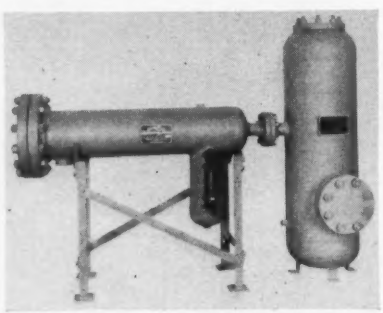
In attendance

J. O. MORROW, W. A. GRESH, R. W. MILLER, C. E. BRITTEN, J. P. COX, JR.; WARNER LEWIS.

Excelso water separators, 10-micron filters, 2-stage dehydrators, 3-stage filter and separator combinations.

The Excel-So 2-stage dehydrator is designed to remove all appreciable free water from product streams prior to contact with the dessicant which permits the dessicant to handle 10 to 50 times more product than a conventional dehydrator without reactivation. Thus the dessicant chamber may be reduced to a fraction of the size normally required without the use of an Excel-So separator as the first stage of separation.

(Check 555 for Further Data on Above)



Excel-So two-stage dehydrator

Watson-Stillman Co.

Roselle, N. J.

223-224 Oklahoma Building

In attendance

J. P. BITTENBINDER, C. JOHNSON, T. L. MOORE

Forged-steel pipe fittings, portable hydraulic pipe bender, laboratory press, hydraulic hand pump and jack.

(Check 556 for Further Data on Above)

Waukesha Motor Co.

Waukesha, Wis.

Block J

In attendance

J. E. DELONG, J. B. FISHER, J. G. SWAIN, P. C. RITCHIE, A. W. POPE, JR.; E. R. RUTENBER, J. R. MERRIAM, H. J. LEMMER, EUGENE BENNETT, G. E. DUNCAN, A. G. MULKEY, JOHN G. ROBEL, MAX HOFMANN, W. M. JACOBSON, R. T. CRAFTS, H. J. LOEBL.

Architect's drawing of Waukesha display

The exhibit centers around the diesel engines for drilling, servicing, pumping, and utility plants, as well as the company's gas-engine counterparts. All of the engines are actual running models and are demonstrated for visitors on request.

The largest diesel engine is the Model LRD, a six-cylinder unit developing 300 hp. maximum at 900 r.p.m. The smallest is a six-cylinder and developing 60 hp. maximum at 2,000 r.p.m., with all accessories.

(Check 557 for Further Data on Above)

Weatherhead Co.

Cleveland, Ohio

82 Scientific and Technical Building

In attendance

A. F. SPRING, C. P. KELSEY, L. A. BURNS

Complete line of Weatherhead liquid petroleum gas valves, fittings, regulators, 20-lb. and 100-lb. cylinders; complete line of Weatherhead Ermeto fittings and brass fittings.

(Check 558 for Further Data on Above)

Weatherford Spring Co.

Weatherford, Tex.

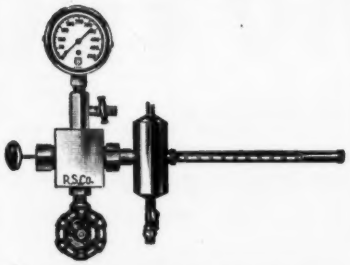
9 Park Lane and Block 105

In attendance

J. E. HALL, SR.; J. E. HALL, JR.; J. A. HALL

In Booth 9: The company's standard line of equipment, including scratchers, spiral centralizers, straight centralizers, cementing baskets, cementing heads, gravel-packing centralizers, tong pull-back springs, and drill-pipe wipers. All are chromium plated,

ACCURATE TESTING EQUIPMENT FOR FIELD AND PLANT

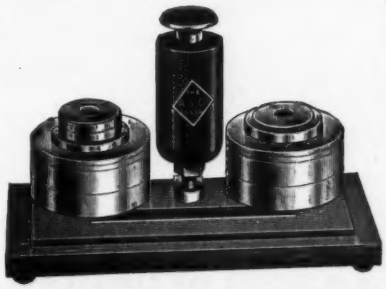


DEW POINT TESTER

Simple to operate. Dew points can be determined with an accuracy of 0.2F., even on high pressure gas transmission lines. Standard range is 0 to 500 P.S.I.

R.S. DEAD WEIGHT GAUGE

Can be put on a line at any connection where ordinary gauge is placed. Gives exact pressure in line by actual dead weight.



R.S. PLUMB BOB THERMOMETER

Serves THREE purposes: To carry the tape down; to read temperature of the oil; to measure the water in bottom of the tank. Complete with thermometer, Range—20° to 120° F., 20° to 180°F. and 30° to 220°F.

Write for Catalog 30-B — Complete Line of Scientific Laboratory Equipment

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Clean, Cool DRINKING WATER

DOBBINS PORTABLE, SANITARY DRINKING FOUNTAIN provides a constant supply of pure, cool drinking water . . . *at the press of a button.* Banishes germ-spreading cups, dippers and pails, thus protecting the health of your workmen and keeping them on the job. Operates like any bubbler drinking fountain. Four gallon capacity tank is fully insulated . . . air pressure for instant flow of water is furnished with a few strokes of the pump.

INNER Container of STAINLESS STEEL

The Dobbins Portable is the ideal drinking fountain for CONSTRUCTION WORKERS . . . ROAD AND BRIDGE GANGS . . . MAINTENANCE CREWS . . . OIL FIELD WORKERS . . . STEVEDORES . . . MINERS, Etc.

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Or order from price list below. Distributors are invited to ask about open territories.

DOBBINS MANUFACTURING CO. DEPT. 525 ELKHART, INDIANA

FOUNTAIN AND ACCESSORIES AVAILABLE FOR IMMEDIATE DELIVERY

No. 18—Dobbins Superbilt Portable Drinking Fountain less all accessories....Only	$17.60	Spill Cup, to catch overflow when used indoors	3.50
Salt Tablet Dispenser, 500 tablets capacity, extra	2.75	Mounting Bracket holds fountain to wall or floor of buildings, trucks, tractors, locomotives, etc.	4.50
Adjustable, Waterproof Carrying Strap, extra	1.15		

All Prices F.O.B. Elkhart, Indiana

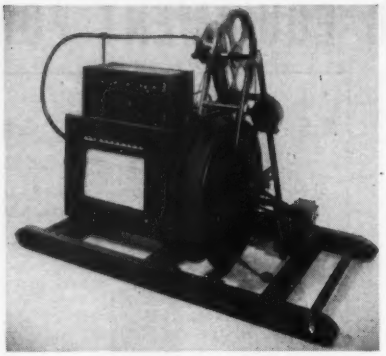
Dobbins Superbilt PORTABLE DRINKING FOUNTAIN

with the exception of the drill-pipe wipers, and are accompanied by pictures showing installation.

In Block 105, a mockup shows the operation of reversible scratchers and spiral centralizers during their reciprocation in the well. A pipe rack with the scratchers and centralizers is installed on casing to show the proper procedure for installation. There is also an all-weather delivery and installation unit.

(Check 559 for Further Data on Above)

Well Instrument Developing Co.
Houston, Tex.
36 Oklahoma Building
In attendance
HUBERT GUYOD



Portable electrical logging unit

Portable electrical logging unit.

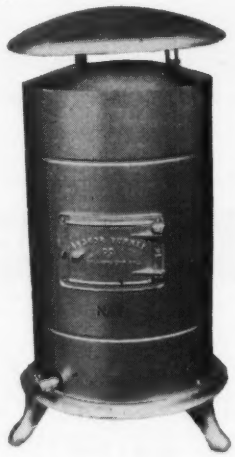
This instrument which was introduced in 1947, is a completely self-contained portable electric logging unit especially designed for core holes, water wells, seismograph shot holes, and other wells less than 2,000 ft. deep. The instrument records automatically on chart paper a potential graph and a point-resistance graph. One graph is obtained while the electrode is lowered in the hole, and the other while the electrode is raised. Three different potential scales, six resistance scales, and three depth scales are available. Logging speed is from 3,000 to 4,000 ft. per hour. Mechanical and electrical features are extremely simple, and instrument can be operated efficiently by a person having only a small technical background.

(Check 560 for Further Data on Above)

Well Equipment Manufacturing Corp.
Houston, Tex.
102-103-108 Texas Building
In attendance
G. R. WINDER, T. T. WORD, JR.

Weco wing unions, blocks, and compounds. Okadee valves, Hamer line blinds and plug valves, Anchor burners, warehouse, and derrick stoves.

Display includes a unique design 50,000-B.t.u. warehouse and derrick stove which can be adapted to burn natural, butane, propane or manufactured gases, manufactured by Anchor Burner Co. This new stove gives off no fumes, due to the design



Anchor warehouse and derrick stove

which allows complete combustion of all gases. Actually, the design allows "double combustion" since the small percentage of gas not burned at the burner head is consumed with secondary combustion against a cast-iron radiation plate just above the burner heads. No vent is necessary.

(Check 561 for Further Data on Above)

Westcott & Greis, Inc.
Tulsa, Okla.
45-46-57-58 Scientific and Technical Building
In attendance
J. H. SATTERWHITE, C. C. COLVER
H. W. WAHL

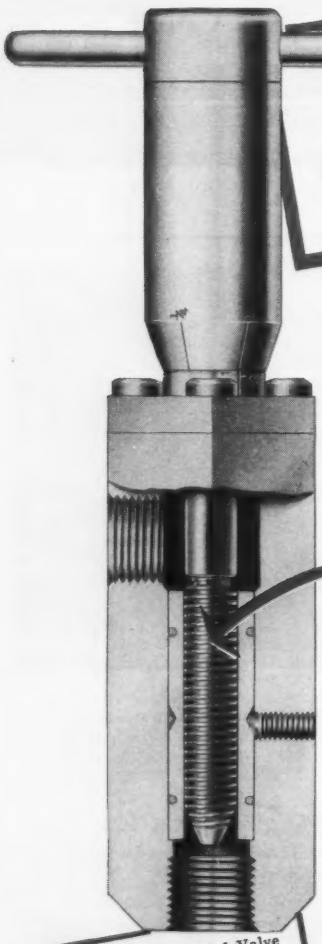
Orifice meters, positive displacement gas meters, gas regulators, flow controls, differential control valves, air actuated instruments manufactured by American Meter Co.

Safety and relief valves and indicating gages manufactured by Crosby Steam Gage & Valve Co.

Gas and oil control regulators manufactured by Davis Regulator Corp.

Motor diaphragm air-actuated control

Here's something new in valves...



It's the
WILLIS
FLUID CONTROL VALVE
The only valve with a helical orifice

The Willis Fluid Control Valve is a completely new approach to precision, clog-free fluid control. Developed for hydraulically-actuated pumps, including deep well free pumps, the Willis Fluid Control Valve incorporates a positive helical orifice that remains the same in cross-sectional area at all flow rate settings—even as little as *10 B/D! Regardless of flow rate, there is always ample clearance through the helical orifice to pass foreign particles that would normally shut off or partially clog the annulus of a needle or other type fluid control valve.

Helical Orifice Principle

In fluid applications, a helical orifice is machined about the circumference of a stem to form a spiraling path for fluid passing through the valve. As the stem is withdrawn from a hardened and ground sleeve by rotation of a micro-adjusting assembly, the length of the helical path remaining in the sleeve is shortened to increase flow rate—as the stem is lowered into the sleeve, the helical fluid path is lengthened to decrease flow rate.

B/D flow rate is dependent upon 3 factors: (1) cross-sectional area of the helical orifice; (2) length of the helical path "seating" within the sleeve; (3) fluid pressure differential.

*Willis Fluid Control Valve Small Capacity Stem (10 B/D to 60 B/D)—4 sizes of interchangeable stems ranging up to 400 B/D control capacity are available.

IT'S NEW! .... IT'S FOOLPROOF!

Put the "Helical Orifice" principle to work on your fluid control problem—*Write* for 4-page folder!

WILLIS OIL TOOL COMPANY

Long Beach, California
3440 Pine Avenue

Houston, Texas
Buffalo Warehouse, M & M Bldg.

Mid-Continent Representative: SPECIALTY SALES AND SERVICE, INC., P.O. BOX 485, Tulsa, Okla.

DU PONT ANNOUNCES

A Safety Color Code for the Petroleum Industry

A proved plan for using color as a visual aid to safety

Now—having proved its value in scores of other industries—the DU PONT SAFETY COLOR CODE is available for field use in oilwell drilling operations . . . and for permanent application in oil refineries. It provides a uniform system to help prevent accidents, improve employee efficiency and morale, encourage good housekeeping.

Through a set of six color signals, the Safety Color Code points out accident hazards, identifies safety and fire protection equipment . . . keeps workers alert through the instinctive language of color. The chart below shows Du Pont Safety Color Code colors with a brief description of their functions and application.

DU PONT SAFETY COLOR CODE FOR THE PETROLEUM INDUSTRY

COLORS	Purposes and Typical Examples of Application.
FIRE PROTECTION RED	To locate and indicate Fire Equipment such as extinguishers, fire hose, hose connections, hydrants, alarm stations.
HIGH-VISIBILITY YELLOW	To point out strike-against, falling, stumbling, or tripping hazards. Use on hooks, swivels, elevators, low overhead obstructions, protruding parts.
ALERT ORANGE	To warn against cut, bit, pinch, explosive and electrical shock hazards. Use on power boxes, machinery guards, pulleys, gears, cutting devices.
SAFETY GREEN	To identify and really locate First Aid equipment, gas mask equipment, salt tablet containers, Safety Bulletin Boards.
PRECAUTION BLUE	To warn against use of equipment under repair, or machinery that should not be started.
TRAFFIC WHITE (Gray or Black)	To encourage good housekeeping and insure orderliness. Use for aisle markings, storage areas, safe working zones.

The Safety Color Code is part of Du Pont Color Conditioning for Industry. For further information contact your Du Pont Finishes engineer . . . or send coupon at right. E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

CLIP THIS COUPON TODAY

E. I. du Pont de Nemours & Co. (Inc.), Dept. J85
Finishes Division, Wilmington 98, Del.

Please send more information about the Du Pont Safety Color Code.

Name_____ Title_____

Firm_____

Address_____

City & State_____

valves manufactured by Hammel Dahl Co.
Gas regulators manufactured by Reliance Regulator Corp.
Orifice fittings manufactured by Robinson Orifice Fitting Co.

(Check 562 for Further Data on Above)

Well Surveys, Inc.
Tulsa, Okla.
77 Scientific and Technical Building
In attendance
CHAS. E. DULLER, GILBERT SWIFT, R. E. FEARON, A. W. ENGLE, W. G. OWNBY.

The exhibit consists of a continuous showing of a motion picture explaining radioactivity well logging.

(Check 563 for Further Data on Above)

Western Mfg. Co.
Nowata, Okla.
36 Kansas Building

Western Supply Co.
Tulsa, Okla.
Block 105
In attendance
E. D. ANDERSON, P. R. KING, DAVID BRADY, JAMES E. HUGHES

Western telescopic-jacket water coolers; atmospheric sections; box-style and separable tube sheet; high-pressure gas coils for transmission systems; conventional shell and tube removable-bundle exchangers.

The exhibit includes commercial-sized equipment illustrating all of the various types of shell and tube exchangers; jacket-water coolers and atmospheric cooling equipment which Western offers to the gasoline, refining, and chemical-process industries. In addition to its own manufacture, there is included a display by Santa Fe Tank & Tower Co. of Los Angeles, who is represented by Western in the Mid-Continent area. This equipment includes Santa Fe's new circular redwood cooling tower, Multifin aerial cooling sections, and other redwood products.

(Check 564 for Further Data on Above)

Westinghouse Air Brake Co., Industrial Division
Wilmerding, Pa.
3 Park Lane
In attendance
J. P. COOPER, C. J. WERLICH, D. R. REED, O. W. SWARTZ

Pneumatic controls for oil rigs—control-airs, Relayairs, Actuators, Flexair valves.

Exhibit includes new series of Control-airs for single line control of various functions on oil rigs. They are lightweight and compact for panel mounting and weather-proofed by means of full housing enclosures that have no dirt and water-catching slots. Type H-2-F is used in conjunction with an actuator for precision control of engine throttle, brakes, or slipping clutches. Handle position is self-holding and maintaining, with automatic compensation for pipe leakage and temperature changes. Type H-2, with spring return, and Type H-2-L with spring-return and latch in terminal position, provide precision control of pneumatic and mechanical clutches. Both of these are furnished with different spring values to suit required pressure ranges.

(Check 565 for Further Data on Above)

Westinghouse Electric Corp.
Pittsburgh, Pa.
21-22-23-118-119-120 Oklahoma Building

Featured is the all-steel Life-Line motor, an airbreak combination linestarter for hazardous locations, and portable a.c. and d.c. welders.

The Life-Line a.c. induction motor is of all-steel construction; has frame, feet, and end brackets of heavy steel; sealed, prelubricated, ball bearings; and is wound with Tufvar wire and Tuffernel insulation. Dripproof, splashproof, totally enclosed fan-cooled and explosionproof models are shown. A splashproof motor is operated under a continuous water spray in a glass tank.

The air break explosionproof combination linestarter provides a compact unit for complete branch circuit and motor protection in hazardous areas where across-the-line starting is permissible and the advantage of remote control is desirable. It consists of a no-fuse Deion circuit breaker and magnetic contactor in a cast-iron enclosure. A separate pushbutton provides for remote operation.

Portable a.c. and d.c. welders are also shown. The new a.c. Flexarc welder is designed to operate with an open circuit secondary voltage of only 65 volts which is the lowest a.c. voltage ever attained for use with all types of standard electrodes. Builtin capacitors help provide more efficient operation. The d.c. Ranger welder is a small sturdy engine-driven welder capable of making "shop" quality welds on field jobs where power is not conveniently available. Visitors are permitted to "try their hand" at welding in a special booth.

Other products displayed include: linestarters and no-fuse circuit breakers for corrosive and hazardous locations; a splash-proof Life-Line gearmotor; a heavy-duty speed increasor; a Rectox copper oxide

ARCCO
The World Over
wherever there is gas
ARCCO-ANUBIS
'Dry-Air GAS
GRAVITOMETERS
This new Arcco-Anubis Dry Air Gas Gravitometer determines and records specific gravity of gases automatically corrected to the humidity content of the air. The difference in weight between a column of GAS and equal column of DRY AIR is measured. This ratio represents the true specific gravity of the sample.
One bell of the instrument is filled with gas which is being measured, and the other bell is filled with dry air. Otherwise, except for the new instrument having one column for gas and one column for dry air, the unit is identical in operation to the standard gas gravitometer. When calibrated and properly installed, these instruments require little attention other than to wind the clock, ink the pen, and change the chart. Send for bulletin No. 101.
AMERICAN
RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.
Available for Early Delivery
SEND FOR BULLETIN No. 101

rectifier cathodic protection unit; a completely self-protecting transformer; arc-welding electrodes; fluorescent and incandescent lighting equipment including floodlights; and a power-factor correction demonstrator.

(Check 566 for Further Data on Above)

Frank Wheatley Pump & Valve Manufacturers

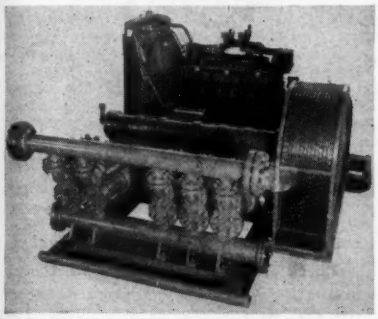
Tulsa, Okla.

Block T

In attendance

FRANK WHEATLEY, SR.; FRANK WHEATLEY, JR.; GUS BAKER, JR.; WILLIAM GRAY, JOHN BURRIS, BOB FORSMAN, TINY BRIDGES, GLEN TAYLOR, MALCOM W. BLACK, FRED CRABBE.

An operating display of the redesigned increased-speed Wheatley quintuplex pump. Another new item introduced is the "Pluggate" quick-opening nonlubricated valve; also the new model 4 by 6 V-belt-driven economy pump of light weight.



The Wheatley Quintuplex double-acting piston pump. The pump, a 3¾ by 8-in., 275 hp., has a capacity of 35,000 bbl. per day, and weighs 14,000 lb.

Besides the pump lines, Wheatley will show its check valve, with a demonstration of the exclusive neoprene seal, and also its tapping machine and gasoline and oil stainers.

(Check 567 for Further Data on Above)

Wheeling Machine Products Co.

Wheeling, W. Va.

Krause Stamping & Manufacturing Co.

Wheeling, W. Va.

20-22 California Building

In attendance

CHARLES A. CARROLL, CHARLES E. RAY

A.P.I. oil-country tubing and pipe coupling.

Thread protectors, valve-protector plugs, and sucker-rod protectors.

Wheeling Machine Products Co., one of the largest makers of steel pipe couplings, produces seamless, butt-welded, and bored-bar couplings at the rate of about 1 million weekly. Merchant standard couplings are made in accordance with latest published standards of the American Iron and Steel Institute and line-pipe couplings are made in accordance with latest published standards of the American Petroleum Institute.

Krause Stamping & Manufacturing Co. is manufacturer of patented pipe protectors and improved valve and sucker-rod protectors, as well as various types of small and medium stampings.

(Check 568 for Further Data on Above)

FOR HEAVY DUTY PIPE-LAYING WORK

Get the story on this massive Superior Pipe Boom, Model TD-24. It's tops in heavy-duty pipe handling equipment on crawler-tractor—the newest and largest of four Superior models.

Reduce handling costs through increased capacity

Boom is mounted on International crawler-tractor—sold through International dealers.

•

Write for detailed specifications!

SUPERIOR EQUIPMENT CO.

Bucyrus, Ohio

I.P.E. DIRECTORY

Whitney Chain & Manufacturing Co.
Hartford, Conn.
74-75 Kansas Building

In attendance
J. W. ANDERSON, R. G. ATKINS, R. W. JOHNSON, J. F. RONDINONE, A. J. SWISLER, E. T. TEAL, K. R. WELD, L. H. WHITNEY.

Roller and silent chain for power transmission, "Oil Field" Assembly Chain.

The display shows the use of precision roller chain in many items of oil-field machinery which permits higher operating speeds and increased power capacity, at the same time securing longer life with lower maintenance.

Whitney "oil field" assembly chain consists of riveted precision roller chain with an offset link inserted approximately every 25 links. Riveted construction has proved superior to cottered construction in high-horsepower high-speed drives but is somewhat difficult to field assembly and disassembly or link removal to tighten chain in fixed center drives. Offset links at regular intervals make Whitney oil-field assembly chain easy to adjust for wear and elongation. Adjustments are made by removing one or more of these links, and since new link replacements are not needed, equal pitch is maintained in all links.

(Check 569 for Further Data on Above)

Wheeling Steel Corp.
Wheeling, W. Va.
27 Kansas Building

In attendance
R. L. BRAMMER, J. E. BODDY, F. E. HAWLEY, B. M. SHARP, E. C. YANDA

Steel shipping containers.

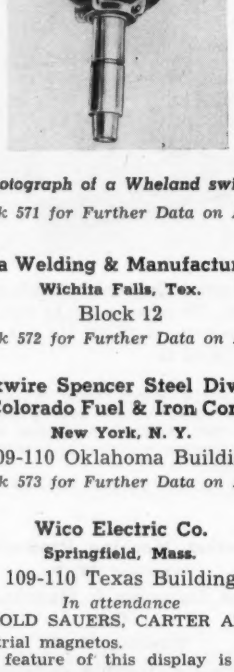
Many different styles of steel shipping containers, both plain and lithographed, are on exhibit, including the Wheeling Seal-Tite ring closure and the reversible spout pail and drum. Representatives are in attendance who are qualified to discuss any shipping container problem.

(Check 570 for Further Data on Above)

Wheland Co.
Chattanooga, Tenn.
Block 1

In attendance
JAMES C. BLAKE, W. A. PITTS, FRANCIS C. AWTREY, ED LYLE, W. E. SHORTS

Pumps, rotaries, swivels, blocks.



Photograph of a Wheland swivel

(Check 571 for Further Data on Above)

Wichita Welding & Manufacturing Co.
Wichita Falls, Tex.
Block 12

(Check 572 for Further Data on Above)

Wickwire Spencer Steel Division, Colorado Fuel & Iron Corp.
New York, N. Y.
109-110 Oklahoma Building

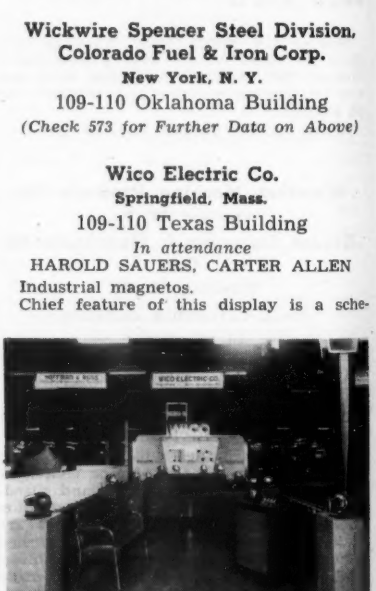
(Check 573 for Further Data on Above)

Wico Electric Co.
Springfield, Mass.
109-110 Texas Building

In attendance
HAROLD SAUERS, CARTER ALLEN

Industrial magnetos.

Chief feature of this display is a schematic working model which shows the functional parts of a magneto and what hap-



Wico Electric Co.'s booth

Oil Companies from Coast to Coast Use

This Kraftbilt filing equipment —

GRAPHIC Well Log CABINET

ELECTRIC Well Log CABINET

NOW we ANNOUNCE the new Kraftbilt Rollfile for filing MAPS

It's Sensational

A Filing Cabinet for Rolled Maps

WITH ALL OF THE FAMOUS FEATURES OF THE DISTINGUISHED KRAFTBILT LINE

1. STRENGTH—Heavy gauge steel and re-inforced struts.
2. DURABILITY—Built for permanency. All joints electrically welded.
3. SAFETY—Fire resisting; dust-proof; tamper proof lock.
4. SPACE SAVER—Disappearing door; cabinet requires less than 5 square ft. of floor space.
5. BEAUTY—Luxurious, smooth baked-on enamel.
6. OPERATION—ball bearing action on all moving parts.

See it the Oil Show in Tulsa. Booth 13, Scientific and Technical Building.

CLIP AND MAIL TODAY →

ROSS-MARTIN CO.
423 East Fourth Street
TULSA 1, OKLAHOMA

ROSS-MARTIN COMPANY, Box 800, TULSA, OKLA. SEND ME WITHOUT OBLIGATION DETAILS OF THE NEW ROLLFILE CABINET.

NAME _____

ADDRESS _____

CITY & STATE _____

pens during the spark-producing cycle.

The exhibit also includes cutaway models and operating magnetos, and features the two new lines of magnetos brought out by this company within the past 2 years.

(Check 574 for Further Data on Above)

Willard Storage Battery Co.

Cleveland, Ohio

34 California Building

In attendance

A. D. WILCOX, JR., W. L. BOWRON

Storage batteries for automobiles, trucks, motorcycles, aircraft, diesel starting and stationary applications; battery charging and service equipment; battery and ignition cables and accessories; dry batteries.

(Check 575 for Further Data on Above)

R. C. Williams & Co.

Wayne, Ohio

126 Kansas Building

In attendance

R. C. WILLIAMS

Williams lower valve pullers, in 18 different styles and sizes.

A new item is a subsurface oil-well pump, especially designed to pump wells containing a sand-laden oil, with the plunger and barrel so constructed as to collect and divert the sand particles attempting to enter between the plunger and the barrel of the pump.

The plunger is made in two parts consisting of a sleeve and a mandrel, the sleeve is a coiled resilient member and is expanded over the mandrel, the same sleeve can be expanded over mandrels of various sizes and by interchanging sleeves and mandrels any size plunger may be obtained in variations of 0.001 in., thus doing away with many machine operations.

(Check 576 for Further Data on Above)

Williams Brothers Corp.

Tulsa, Okla.

165 Oklahoma Building

In attendance

ROBERT L. BUCK

The exhibit consists of lighted murals setting out locations of operations, both foreign and statewide. The mural also portrays various scenes of pipe-line construction and application of equipment.

(Check 577 for Further Data on Above)

T. D. Williamson, Inc.

Tulsa, Okla.

156 Oklahoma Building

In attendance

T. D. WILLIAMSON, T. D. WILLIAMSON, JR.; M. G. WASHBURN, N. T. STILGENBAUER.

Pipe-line pigs for internal cleaning of pipe lines, WmSeal casing bushings, Williamson pipe-line insulators, pipe-line tapping machines, gas-pipe-line expansion plugs, pipe finders for underground lines, leak detectors.

The equipment in this exhibit consists of specialized pipe-line cleaning pigs, WmSeal casing bushings, and Williamson casing insulators, for highway and right-of-way crossings, and tapping machines for use in pipe lines under operating pressures. All equipments are designed to meet the specific pipe-line construction details and the type of products handled.

(Check 578 for Further Data on Above)

Wilson Manufacturing Co., Inc.

Wichita Falls, Tex.

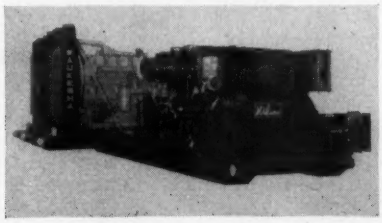
Blocks R and N

In attendance

JOHN H. WILSON, A. A. WILSON, B. A. McCULLAH, JACK WILSON, VANN LIGON, JACK LIGON, HARRY FRAZEE, JAMES V. WINTLE, GUY E. DANIELS, EARL MARKHAM, RUSSELL MOORE.

Titan rig, Giant rig, Giant single-engine rig, core reel, utility unit, independent rotary-table drive, Torcair winches, single and double-drum winches with friction clutches, masts, Air-Tube disk friction clutches, spudder winch, friction catheads (air operated).

The "Mystery Rig" on display is a bid to exhibit the most advanced drilling rig at the exposition. The company has developed an entirely new concept of controls and draw-works location for the "Mystery Rig."



Wilson Giant Model power rig

Other equipment in the Wilson exhibit are three complete rigs—a Titan, a Giant, and a single-engine Giant; a core reel; a utility unit; the new independent rotary-table drive; Torcair winches; single and double-drum winches with friction clutches; telescopic mast poles; spudder winch; and the Wilson Air-Tube disk friction clutch. Air operated catheads are also shown for the first time.

(Check 579 for Further Data on Above)

Web Wilson Oil Tools, Inc.

Huntington Park, Calif.

187-188 Oklahoma Building

In attendance

W. W. (WEB) WILSON, W. A. (BILL) WILSON, B. M. (BY) LANDIS

Elevator adaptors, connectors, swivel bale clevis, tong dies, elevators for casing, drill pipe, and tubing; elevator links for drilling and production, tong pins, rotary and casing tongs.

(Check 580 for Further Data on Above)

Wilson Supply Co.

Houston, Tex.

59 Oklahoma Building

In attendance

P. S. STOVER, L. R. BANDY

(Check 581 for Further Data on Above)

Wilson Welder & Metals Co., Inc.

New York, N. Y.

34-35 Oklahoma Building

(Check 582 for Further Data on Above)

Winter Weiss Co.

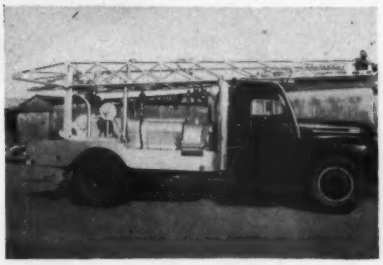
Denver, Colo.

Extreme NE corner of grounds

In attendance

O. C. GOSSETT, O. D. COLQUITT

Portadrill, portable rotary drill, and truck-mounted flat-top water tank.



Latest "Portadrill" of Winter Weiss

(Check 583 for Further Data on Above)

W-K-M Co., Inc.

Houston, Tex.

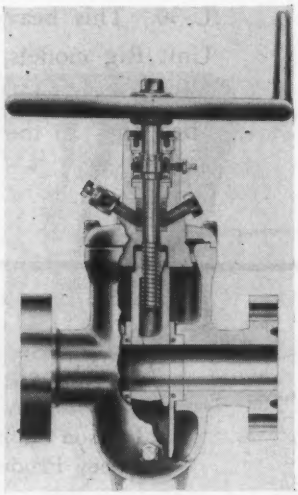
18-21 Texas Building

In attendance

J. D. RICE, V. C. GALLMAN, E. W. ROBINSON

High-pressure gate valves, pipe-line valves, tubing slips and spiders.

W-K-M through-conduit lubricated gate



Cutaway section of W-K-M valve showing features of engineering design

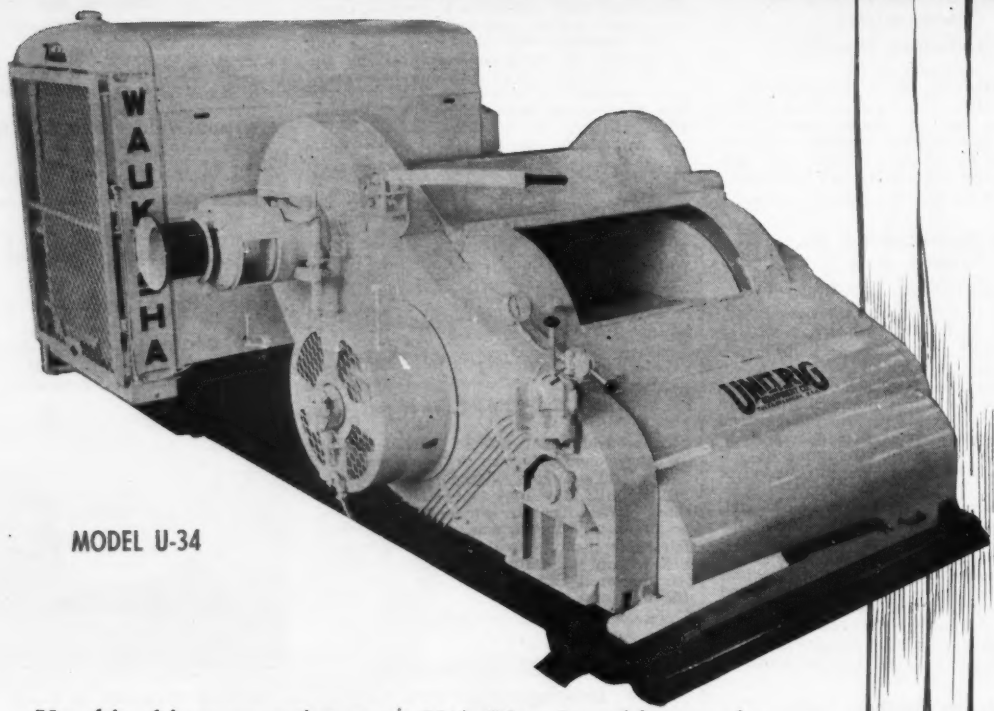
Check It . . . Mail It . . .

IN connection with the "numbered" list of exhibits and exhibitors on these pages for the convenience of its readers the Journal has arranged a special "Check It" . . . Mail It" free information service on the 1948 Oil Exposition.

In this section will be found a perforated prepaid JUMBO free information card, which can be checked or circled against the corresponding "numbers" of the exhibitors listed here.

Whether or not you attend the International Petroleum Exposition in person, this Oil Exposition Issue of the Journal and the Journal's special "Check It . . . Mail It" Jumbo service card will bring you complete Oil Show coverage.

BIG THINGS are Going



MODEL U-34

Yes, big things are going on at Unit Rig. Just this year the New U-34 (Shown above) was introduced. This dependable model was designed to fill the need for a dependable rig to use in the highly competitive field of shallow well drilling, and it met with instant success.

Now, at the Oil Show, you will see another new Unit Rig Model . . . the giant U-30. This heavy-duty rig incorporates the tried and proved features of other Unit Rig models, plus new features that make it highly efficient, in its specific job of deep well drilling. And, of course, the U-30 is PORTABLE. Make a "bee line" to the Unit Rig exhibit and see the new, U-30.

NATIONAL DISTRIBUTORS

Bovaird Supply Company
Houston Oil Field Material Company, Inc.
Iverson Supply Company
Lucey Products Corporation
Norvell-Wilder Supply Company
Oil Well Supply Company
Republic Supply Company
Superior Iron Works

NATIONAL & EXPORT DISTRIBUTOR

Mid-Continent Supply Company

on at UNIT RIG!

UNIT RIG
First Showing
AT THE I.P.E.
The Great New
U-30
Here's the answer to your request for an extra dependable rig for deep well drilling. Patterned after the many suggestions from expert drillers throughout the world.

UNIT RIG & EQUIPMENT CO.
TULSA, OKLAHOMA, U.S.A.

DESIGNED FOR THE JOB....

valves are shown in types for flow lines and christmas trees, and also for pipe lines. This valve features a round, full-bore, smooth passage through the valve without cavities or pockets to cause turbulence or permit the accumulation of solids. Valve seats are fully protected in both open and closed positions. Seats are removable and carry spring-loaded wiper rings. The gate expands and effectively seals off the valve in both open and closed positions. The body and the bonnet serve as a reservoir for a large amount of lubricant. The pressure-seal bonnet uses no flanges and no studs or bolts and nuts. Internal pressure causes the bonnet seal to become tighter and this seal is also self-adjusting to pressure and temperature variations.

(Check 584 for Further Data on Above)

World Petroleum
New York, N. Y.
2 Park Lane
(Check 585 for Further Data on Above)

Worthington Pump & Machinery Corp.
Harrison, N. J.
Block L
In attendance
E. J. SCHWANHAUSSER, J. V. JIRASEK, F. J. ELLIS, G. F. HABACH, A. M. TULLO, E. F. WRIGHT, J. CHARLS, W. B. STRONG, W. E. WECHTER, P. A. MACK, T. J. KOHANE, H. GARNER, H. BOTELER, A. C. ROSS, G. STEVEN, J. J. BALL.

Engine Division—Type SDH-8 diesel engine, with turbo-charger connected to electric generator. Crankcase will be open for inspection, but engine will not be in operation.

Reciprocating Pump Division—A 2¼ by 6 Type VTEW Variflo pump, a demonstration unit in operation to show action of variable stroke; 10-in. Type KPS-1 power pump; 4-in. Type KDV power pump; two Hivol steam pumps; four rotary pumps, Types GA, GR, GAV, and GRM 1.

Centrifugal Pump Division—A 6 UHD-2 pipe-line pump, refinery pump, 3-DHL-7 pump, 2-HBLC-5 Worthite pump, 1¼-TH-2 regenerative pump, 2-CN-32 pump, 4-CG-3 Worthite pump, model of new mechanical seal.

Merchandising Division—Multi - V - Drive display.

Vertical Compressor Division—A 5-TBM starting air compressor, 3-TT garage-type compressor.

Air Conditioning and Refining Division—A 5-ton air-conditioning exhibit unit, in operation; 3-HF-6-15W15 freon compressor; GUR-5L4 centrifugal propane compressor.

Construction Equipment Division—A 105-ft. two-wheel portable compressor, 3M contractor's pump, 15M contractor's pump, on trailer, a 6S trailer mixer, stand containing assortment of air tools.

Turbine Division—An S2R turbine with E6 gear.

(Check 586 for Further Data on Above)

Wright Hoist Division, American Chain & Cable Co., Inc.
York, Pa.
158 Oklahoma Building
In attendance
S. J. WOODWORTH, D. R. SMITH

Wright Speedway electric hoists, Wright high-speed hoists, Wright trolleys.

(Check 587 for Further Data on Above)

Wright Petroleum Laboratory
Houston, Tex.
23 Scientific and Technical Building
In attendance
JOE WRIGHT

Bottom-hole-pressure testing instruments, bottom-hole sample instruments, micrometer chart reader, laboratory analysis equipment.

(Check 588 for Further Data on Above)

Young Engine Corp.
Canton, Ohio
Block A
In attendance
W. T. YOUNG, A. E. AVERS, P. A. FOSTER

Gas drilling engine, electric-light plant, under-road boring machine, Model 6 spudder.

The Model 6 spudder offers easy portability, simplicity in servicing, and reduction of fire hazard, and can be powered by any drilling engine which has sufficient power for 6,000 ft. drilling with a belt to the shaft of the spudder. Since the engine can be as far from the hole as the belt permits, the fire hazard is lessened. Four pneumatic tires on rear axle give stability on roads, and low center of gravity reduces possibility of upsetting.

The clutches on the sand reel, bullwheel, and beam are Fawick Airflex clutches with finger-tip controls. The frame is 8 ft. wide and 17 ft. long over-all. A mast suitable to the territory is equipped with a shock absorber and is self-supporting, requiring no guy wires. Other type masts can be furnished or spudder can be used under a standard derrick.

(Check 589 for Further Data on Above)

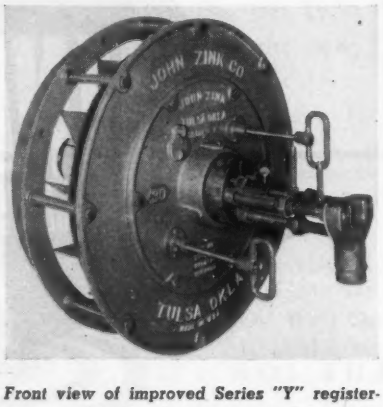
Young Radiator Co.
Racine, Wis.
Block J
Exhibiting with Happy Co.
(Check 590 for Further Data on Above)

John Zink Co.
Tulsa, Okla.
3-4 Silver Lane
In attendance
WALTER J. COMBS, JOHN S. ZINK, J. ARTHUR MOORE, ROBERT D. REED.

Combination oil and gas burners, Series Y and Series CBM; short-flame gas burner; vertical Bi-Mix for oil-country boilers; gas-fired unit heaters; "Shorty" floor furnace.

Besides the standard refinery burners such as the Bi-Mix and center-fired Series Y burners that are always shown at the Oil Show there is on exhibit the John Zink floor furnace that is only 26 in. deep, and the Unit Heater that is suspended from the ceiling and ideal for providing heat where floor space is at a premium. There is also shown the latest designs of the John Zink air heater, latest Steamizer Oil Gun, and ST Type Pilot Burner.

(Check 591 for Further Data on Above)



Front view of improved Series "Y" register-type combination burner mounted in Multi-Way frame

Too Late to Classify

American Abrasive Metals Co.
Irvington, N. J.
18 Park Lane
(Check 592 for Further Data on Above)

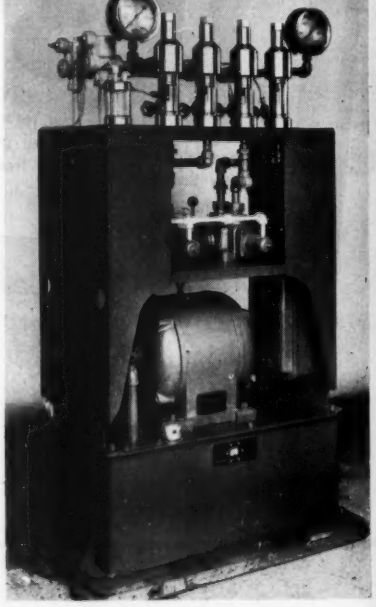
Brown Oil Tools, Inc.
Houston, Tex.
22-23 Silver Lane
In attendance
F. L. SCOTT, JR.

Exhibiting cementing heads, pump-down plugs, liner-wiper plug, packers, liner hangers, tubing safety joint, set shoes, setting tool, knuckle joint, inside cutting tool, spear, setting tools, tubing hangers, liner setting sleeve, drill-collar stabilizer, casing plug, pipe-testing unit, drilling jar safety joint.

(Check 593 for Further Data on Above)

Deep Wells, Inc.
Tulsa, Okla.
S.E. of California Building
In attendance
C. E. BRIDWELL

First showing of a new hydraulic valve-testing machine for illustrating bottom-hole pump conditions and show wear of pump valves and fluid actually lost through use of inefficient valves.



Deep Wells, Inc., bottom-hole machine
(Check 594 for Further Data on Above)

Drilling & Service, Inc.
Dallas, Tex.
Block 107
In attendance
C. DEELY

Diamond core barrels and bits.

(Check 595 for Further Data on Above)

I.P.E. DIRECTORY

Graflube Bearing Co.
Signal Hill, Calif.
31 Park Lane

Heavy-duty graphite bearings.

The exhibit shows complete and disassembled shock-resistant, self-aligning, "tailboard" or pitman stirrup bearing, consisting of a steel housing, an oil-resistant pad, and the Graflube bearing itself. This is a graphite-impregnated plastic block molded under pressure of 6,000 psi. The manufacturer claims this bearing requires no lubrication nor inspection and never needs replacement.

(Check 596 for Further Data on Above)

Hobb Swetnam Co., Inc.
Wichita Falls, Tex.
NE Corner of Grounds
(Check 597 for Further Data on Above)

R. W. Hollingshead Corp.
Camden, N. J.
21 Park Lane
(Check 598 for Further Data on Above)

Hyster Co.
Portland, Ore.
Block G
In attendance
C. E. HOUSTON

Hyster Karry Krane and industrial lift trucks.

Shown for the first time is the new "Load-Grab" lift truck with arms which may be fitted with various types of jaws for lifting and carrying drums, bales, cartons, and other articles without the use of pallets.

Also on display are other types of Hyster industrial lift and fork trucks and the self-propelled Karry Krane for factory use and loading freight cars and trucks.

The new Hyster "Load-Grab"
(Check 599 for Further Data on Above)

Kenworth Motor Truck Corp.
Seattle, Wash.
Outside Hall of Science
(Check 600 for Further Data on Above)

Koch Engineering Co., Inc.
Wichita, Kans.
15 Silver Lane
(Check 601 for Further Data on Above)

Locomotive Finished Material Co.
Atchison, Kans
Block 104
(Check 602 for Further Data on Above)

Magnilastic Division, Cook Electric Co.
Chicago, Ill.
17 Kansas Building
In attendance
EUGENE ZIEBOLD, RICHARD MATHIAS, KENNETH HANSEN, HAROLD HARRIS.

Packless expansion joints; stainless-steel standard joints; large-diameter, low-pressure, expansion joints; anchor joints and expansion fittings; offset joints.

(Check 603 for Further Data on Above)

McEvoy Co.
Houston, Tex.
Exhibit space changed to
27-28 Park Lane
(Check 604 for Further Data on Above)

Pelton Water Wheel Co.
San Francisco, Calif.
24 Silver Lane
(Check 605 for Further Data on Above)

Pittsburgh Corning Corp.
Pittsburgh, Pa.
133 Kansas Building
(Check 606 for Further Data on Above)

Reynolds Metals Co.
Louisville, Ky.
West of I.P.E. Office
(Check 607 for Further Data on Above)

Southern Express, Inc.
Tulsa, Okla.
West of I.P.E. Office
(Check 608 for Further Data on Above)

Standard Equipment Sales Co.
Oklahoma City, Okla.
N.W. of Cafeteria
(Check 609 for Further Data on Above)

Steelcraft Boats
Tulsa, Okla.
NW of Cafeteria
(Check 610 for Further Data on Above)

Earl Vincent Co.
Tulsa, Okla.
26 Park Lane
(Check 611 for Further Data on Above)

Vortox Co.
Claremont, Calif.
Block J
In attendance
S. T. McCORMICK, G. H. HOPKINS

Vortox oil-bath air cleaners and panel air filters.

(Check 612 for Further Data on Above)

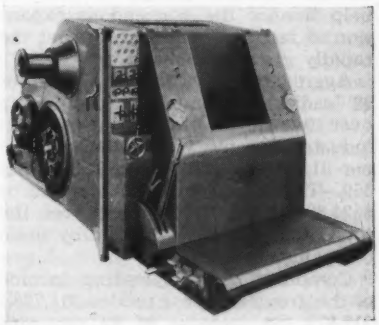
W. L. Walker Co.
Tulsa, Okla.
In front of Scientific and Technical Building
(Check 613 for Further Data on Above)

Wassell-Tulsa Co.
Tulsa, Okla.
5 Silver Lane
(Check 614 for Further Data on Above)

New Rig Developed by Lucey Export Corp.

A NEW drilling rig, said to be completely portable and quickly assembled, has just been announced by Lucey Export Corp., New York.

This rig is now being manufactured in two types; Type ES-2 rated at 7,500 ft. with 4½-in. drill pipe, and Type ES-3 rated at 10,000 ft. with 4½-in. drill pipe. Both types are of similar general design and many parts of the two rigs are interchangeable and both are complete with the following matched equipment: Lucey Export Type ES-2 or 3 draw works and engine transmission; Wheland block, swivel, rotary, and pumps; Cummins, Buda, or GM diesel engines.



New drilling rig developed by Lucey Export Corp.

Air controls operate all clutches, Airflex, and jaw, and both catheads. Roller chain is used entirely in the draw works and engine transmission; there are no gears.

The Lucey ES draw works is the heart of the rig and includes a Parkersburg double hydromatic brake installed inside the case, a bailing drum, six forward speeds and two instantaneous reverse speeds, and precision roller-chain transmission. A new shifting arrangement permits the driller to shift smoothly from first to second and to high or back again simply by moving one finger-tip lever. There are safety features that eliminate the possibility of two speeds being engaged simultaneously. Each shaft is complete and can be removed independently without disturbing the remaining shafts. Roller bearing are used throughout and all main shaft bearings are Alemite-lubricated from one centrally located panel.

The engine transmission case is of unitized OilTite construction and is designed for two engines in the Type ES-2 and three engines in the Type ES-3, and one or two pumps may be used with either type.

Record Capital Expenditures Feature 1947 Operations

by F. J. Sansone*

REFLECTING the achievement of new records in production and demand and higher prices for crude oil and refined products, oil-company sales and net earnings in 1947 exceeded all previous records.

Capital expenditures, however, increased even more than net income and although nearly two-thirds of their record earnings last year were plowed back into the business, many oil companies had to raise large amounts of new capital in order to help finance the tremendous expansion of facilities required to meet the rapidly growing demand.

Aggregate net income of a group of 32 leading oil companies, comprising over two-thirds of the domestic oil industry, for the year ended December 31, 1947, amounted to $1,399,046,359. This represented an increase of $524,303,512 or 60 per cent over the total of $874,742,847 reported by these companies in 1946.

Combined gross operating income of the group last year totaled $11,726,217,877, an increase of 39 per cent over the total of $8,412,462,956 in the preceding year. The 32 companies reserved for depreciation, depletion, amortization, etc., a total of $941,219,776 in 1947 as compared with $835,400,028 in 1946. Their combined provisions for income taxes increased to $479,234,702 from $260,678,833.

Practically every oil company's annual report for 1947 stressed the amount of money spent and to be spent in discovering and developing new oil reserves, building new pipe lines, refineries, and other facilities. In many cases these expenditures exceeded cash earnings comprised of net income and depreciation allowances. It was also generally pointed out that the established accounting practice of basing depreciation charges on original cost not only results in inadequate reserves for the replacement of existing facilities at current high costs, but also causes reported earnings to be much higher than would be the case were such charges calculated on actual replacement costs.

Twenty-five of the 32 companies paid higher cash dividends on their common stocks in 1947 than in 1946. Combined cash dividends of the group last year (including payments on preferred stocks) totaled $494,338,248 or 35 per cent of aggregate reported net earnings. This was an increase of $126,306,535 or 34 per cent over 1946 when disbursements of $368,031,713 equaled 42 per cent of net income.

Reference to the accompanying table of earnings and dividends for the years 1935-1947 reveals that oil companies have been retaining an increasing percentage of their net income for reinvestment and that the stockholder has been receiving a correspondingly smaller proportion of earnings. For example in the 5 years 1935-1939, the portion of earnings retained by the 32 companies was 46 per cent; in the 5 years 1940-1944, the part plowed back was 51 per cent; in 1945 and 1946 retention increased to 56 per cent; and in 1947, 65 per cent of reported earnings was held back for reinvestment.

After the payment of dividends, the group carried $904,708,111 to surplus and reserves in 1947. These undistributed earnings together with the $941,219,776 charged against income for capital extinguishments normally would have been sufficient to provide funds for the required replacement and expansion of operating facilities. However, construction, material, and crude-oil replacement costs increased

EARNINGS AND DIVIDENDS OF 32 OIL COMPANIES 1935-1947

	Net income	Cash dividends
1947	$1,399,046,359	$494,338,248
1946	874,742,847	368,031,713
1945	693,571,485	322,582,398
1944	721,925,607	319,587,936
1943	575,743,793	268,710,428
1942	454,296,222	244,053,844
1941	585,179,611	277,694,030
1940	419,766,401	231,415,557
1939	362,974,010	210,193,197
1938	344,870,763	220,897,663
1937	634,368,549	311,935,027
1936	463,479,894	251,625,745
1935	288,305,924	132,979,607

Note: Restated to include Cities Service Co. in place of Empire Gas & Fuel Co.

Comparative Earnings and

	Gross operating income	Net income	Earned per share common	Cash dividends[1]	Dividends paid per share common
Amerada Petroleum Corp.:					
1947	$47,225,206	$14,919,626	$9.46	$4,732,050	$3.00
1946	31,729,853	8,855,975	5.61	2,957,531	1.87½
Atlantic Refining Co.:					
1947	320,144,560	15,897,652	5.32	5,731,131	1.50
1946	229,227,011	9,632,929	3.26	4,955,196	1.50
Barnsdall Oil Co.:					
1947	24,433,213	9,119,031	4.10	3,439,342	1.55
1946	17,016,637	5,113,811	2.30	1,996,167	0.90
Cities Service Oil Co.:					
1947	468,925,946	40,464,786	10.93	5,552,807	1.50
1946	333,175,448	27,253,121	6.41	.....	...
Continental Oil Co.:					
1947	228,730,662	31,356,663	6.61	11,867,440	2.50
1946	159,230,875	19,013,899	4.05	7,960,032	1.70
Gulf Oil Corp.:					
1947	797,211,423	95,540,059	10.53	24,959,556	2.75
1946	562,241,107	58,284,830	6.42	22,690,505	2.50
Houston Oil Co.:					
1947	13,500,696	4,046,094	3.67	1,098,618	1.00
1946	10,904,020	2,377,859	2.08	639,785	0.50
Humble Oil & Refining Co.:					
1947	724,560,118	124,106,877	6.90	53,927,040	3.00
1946	456,337,532	71,831,758	4.00	29,210,480	1.62½
Lion Oil Co.:					
1947	54,250,030	7,991,287	6.83	2,048,096	1.75
1946	36,642,192	3,965,779	[2]3.39	854,482	[2]0.77½
Mid-Continent Petroleum Corp.:					
1947	113,355,626	17,638,932	9.49	5,570,806	3.25
1946	80,112,779	10,084,581	5.43	4,182,885	2.00
Ohio Oil Co.:					
1947	130,772,341	29,161,496	4.44	11,485,907	1.75
1946	91,857,249	18,253,236	2.78	8,204,219	1.25
Phillips Petroleum Co.:					
1947	298,309,751	40,893,647	[3]6.76	12,466,635	2.50
1946	220,074,897	22,625,150	4.00	9,833,974	2.00
Plymouth Oil Co.:					
1947	9,452,515	4,197,420	4.01	1,034,490	[4]1.00
1946	7,109,864	2,105,239	2.01	1,039,012	[4]1.00
Pure Oil Co.:					
1947	244,412,577	21,197,069	4.77	8,183,850	1.50
1946	178,888,074	17,107,961	3.74	7,188,528	1.25
Richfield Oil Corp.:					
1947	87,957,728	11,853,397	2.96	6,015,002	1.50
1946	68,855,011	7,062,276	1.76	3,208,000	0.80
Seaboard Oil Co.:					
1947	19,859,410	5,941,002	4.83	[5]1,847,584	1.00
1946	13,532,941	3,000,586	2.43	1,234,223	1.00
Shell Union Oil Corp.:					
1947	628,105,170	59,874,698	4.44	30,308,906	2.25
1946	442,827,893	32,880,417	2.44	20,205,938	1.50

*Carl H. Pforzheimer & Co., New York City.

so greatly that the industry could not finance its growth with funds derived from operations.

Capital expenditures of the group last year were approximately $2,220,000,000 as compared with $1,410,000,000 in 1946. The 1947 expenditures exceeded reported net income by $821,000,000. After the payment of dividends, retained earnings and capital extinguishment charges failed by $374,000,000 to provide for capital expenditures. This deficiency of internally generated cash was met by funds raised in the capital markets and is reflected in the accompanying composite comparative balance sheets by increases in the group's long-term debt, common stock, and capital or paid-in surplus. A majority of the individual companies, however, continued to finance development without recourse to external funds.

Three members of the group raised funds in 1947 through the sale of common stock and one through sale of preferred stock, while a number of companies substantially increased indebtedness. Phillips Petroleum Co., Standard Oil Co. of Ohio and The Texas Co. were the companies issuing new common, realizing net proceeds of $48,000,000, $13,471,000, and $99,738,000, respectively, while Atlantic Refining Co. sold $25,000,000 of new preferred. Substantial increases in long-term debt were shown last year by Gulf Oil Corp. ($184,601,035 vs. $79,672,985); Sinclair Oil Corp. ($156,371,677 vs. $108,431,680), and Standard Oil Co. (Indiana) ($174,346,231 vs. $66,982,830). Gulf obtained $113,000,000 from the sale of new common stock in February 1948.

Standard Oil Co. (New Jersey); Socony-Vacuum Oil Co., Inc., and Standard of Indiana, the three largest members of the group, have stated that their expenditures for properties, plants, and equipment in 1948 will equal or exceed those of last year. Standard of New Jersey spent $426,000,000 in 1947 and estimates that expenditures for the current year will bring the total for the 2 years to more than 1 billion dollars, indicating outlays of around $600,000,000 in 1948. Socony-Vacuum, which spent $141,400,000 in 1947, plans to spend $440,000,000 for capital investment during 1948 and 1949. Standard of Indiana's expansion for 1948 is estimated to require approximately $220,000,000.

Because oil-company earnings in 1948 will show a further substantial increase, indications are that the industry will supply a greater part of its needs from internal sources this year than in 1947 even though capital expenditures in 1948 may approximate the record 1947 total.

Total depreciated assets of the 32 companies at the end of 1947 amounted to $14,352,671,424, of which $8,200,842,627 or 57 per cent represented net property, plant, and equipment; $4,817,676,721 or 33.5 per cent current assets; with most of the balance comprised of investments in and advances to nonconsolidated subsidiaries and affiliated companies. Against these assets there were current liabilities of $1,878,201,672; long-term debt of $1,952,652,926; and other liabilities and reserves of $954,650,024. After allowing for these liabilities, net worth amounted to $9,567,166,802, an increase of $1,041,209,218.

(See additional table on page 415)

COMPOSITE INCOME AND BALANCE-SHEET STATEMENTS OF 32 OIL COMPANIES

	1947	1946*	1945*
Income account—			
Gross operating income	$11,726,217,877	$8,412,462,956	$8,454,484,444
Depreciation, depletion, etc.	941,219,776	835,400,028	1,053,475,036
Provision for income taxes	479,234,702	260,678,833	160,032,113
Net income	1,399,046,359	874,742,847	693,571,485
Cash dividends paid	494,338,248	368,031,713	322,582,398
Assets—			
Current assets	$4,817,676,721	$4,120,126,208	$3,938,759,802
Property, plant, and equipment†	8,200,842,627	7,003,973,331	6,333,819,498
Investments and advances	1,114,064,008	1,083,831,521	1,059,434,216
Miscellaneous other assets	220,088,068	190,175,291	176,582,787
Total assets	$14,352,671,424	$12,398,106,351	$11,508,596,303
Liabilities—			
Current liabilities	$1,878,201,672	$1,350,981,848	$1,170,830,825
Funded and long-term debt	1,952,652,926	1,556,891,584	1,403,037,783
Preferred stock	202,094,200	240,865,060	213,299,900
Common stock	4,031,700,024	3,898,577,323	3,715,476,104
Capital Surplus	977,965,796	934,124,882	899,011,941
Earned surplus	4,355,406,782	3,452,390,319	3,061,087,342
Other liabilities and reserves	954,650,024	964,275,335	1,045,852,408
Total liabilities	$14,352,671,424	$12,398,106,351	$11,508,596,303
Net working capital	$2,939,475,049	$2,769,144,360	$2,767,928,977

*Restated to include Cities Service Co. in place of Empire Gas & Fuel Co. †Net after reserves for depreciation, depletion, etc., amounting to $8,406,713,368 in 1947; $7,902,764,407 in 1946; and $7,448,360,470 in 1945.

Dividends of 32 Oil Companies

	Gross operating income	Net income	Earned per share common	Cash dividends[1]	Dividends paid per share common
Sinclair Oil Corp.:					
1947	487,244,609	48,776,125	4.07	14,964,276	1.00
1946	376,535,298	27,607,645	2.30	11,971,349	1.00
Skelly Oil Co.:					
1947	121,323,798	21,090,936	21.49	2,453,355	2.50
1946	78,498,153	10,108,765	10.30	1,962,697	2.00
Socony-Vacuum Oil Co., Inc.:					
1947	1,028,633,780	97,708,927	3.13	31,178,319	1.00
1946	761,235,312	58,310,569	1.87	23,383,742	0.75
South Penn Oil Co.:					
1947	29,760,600	6,750,313	3.86	6,144,900	3.50
1946	28,699,333	5,516,927	3.06	3,600,000	2.00
S. O. of California:					
1947	530,131,667	107,268,575	8.25	41,612,650	3.20
1946	372,797,407	66,956,611	5.15	29,909,092	2.30
S. O. of Indiana:					
1947	910,746,050	94,880,715	6.21	30,570,249	2.00
1946	650,615,964	67,649,785	4.43	26,748,791	1.75
S. O. of Kentucky:					
1947	155,418,173	9,464,005	3.63	5,209,577	2.00
1946	114,006,918	9,441,397	3.62	5,209,577	2.00
S. O. of New Jersey:					
1947	2,354,916,766	268,626,580	9.83	109,334,968	4.00
1946	1,622,339,099	177,609,931	6.50	82,001,226	3.08
S. O. of Ohio:					
1947	198,645,034	16,390,585	[4]4.41	5,072,657	1.37½
1946	160,564,974	10,324,797	3.43	[3]3,608,842	[3]1.00
Sun Oil Co.:					
1947	356,841,425	24,339,913	[5]5.28	[4]4,367,546	[4]1.00
1946	306,643,518	14,726,551	4.17	3,852,882	1.00
Sunray Oil Corp.					
1947	38,117,795	10,008,610	1.81	[10]3,455,045	[10]0.50
1946	20,822,203	4,275,717	0.17	1,758,288	0.30
Texas Co.:					
1947	819,210,821	106,312,617	[11]7.90	33,733,980	3.00
1946	586,537,210	71,089,267	6.32	33,733,980	3.00
Texas Pacific Coal & Oil Co.:					
1947	9,389,211	4,123,907	4.65	1,771,750	2.00
1946	5,941,966	2,113,248	2.38	885,842	1.00
Tide Water Associated Oil Co.:					
1947	303,253,069	30,175,955	4.57	7,662,692	1.05
1946	216,302,144	19,757,707	2.93	7,441,681	1.00
Union Oil Co. of California:					
1947	171,378,107	18,910,860	3.85	6,537,024	1.10
1946	121,673,670	9,804,523	1.90	5,603,770	1.00

(1) Includes dividends paid on common and preferred stock. (2) Adjusted for 2-for-1 stock split. (3) Based on 6,045,108 shares in 1947 and 4,916,987 shares in 1946. (4) Also 2 per cent in stock. (5) Includes extra of 50 cents per share paid in January 1948. (6) Based on 3,504,835 shares in 1947 and 2,737,074 shares in 1946. (7) Also 2 per cent in stock. (8) Based on 4,534,001 shares in 1947 and 3,434,944 shares in 1946. (9) Also 10 per cent in stock. (10) Also 5 per cent in stock. (11) Based on 13,461,096 shares in 1947 and 11,244,660 shares in 1946

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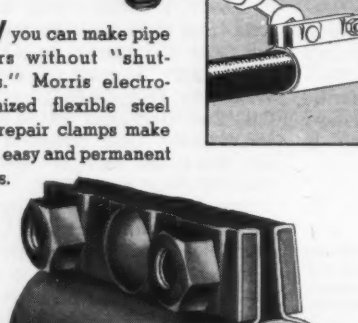

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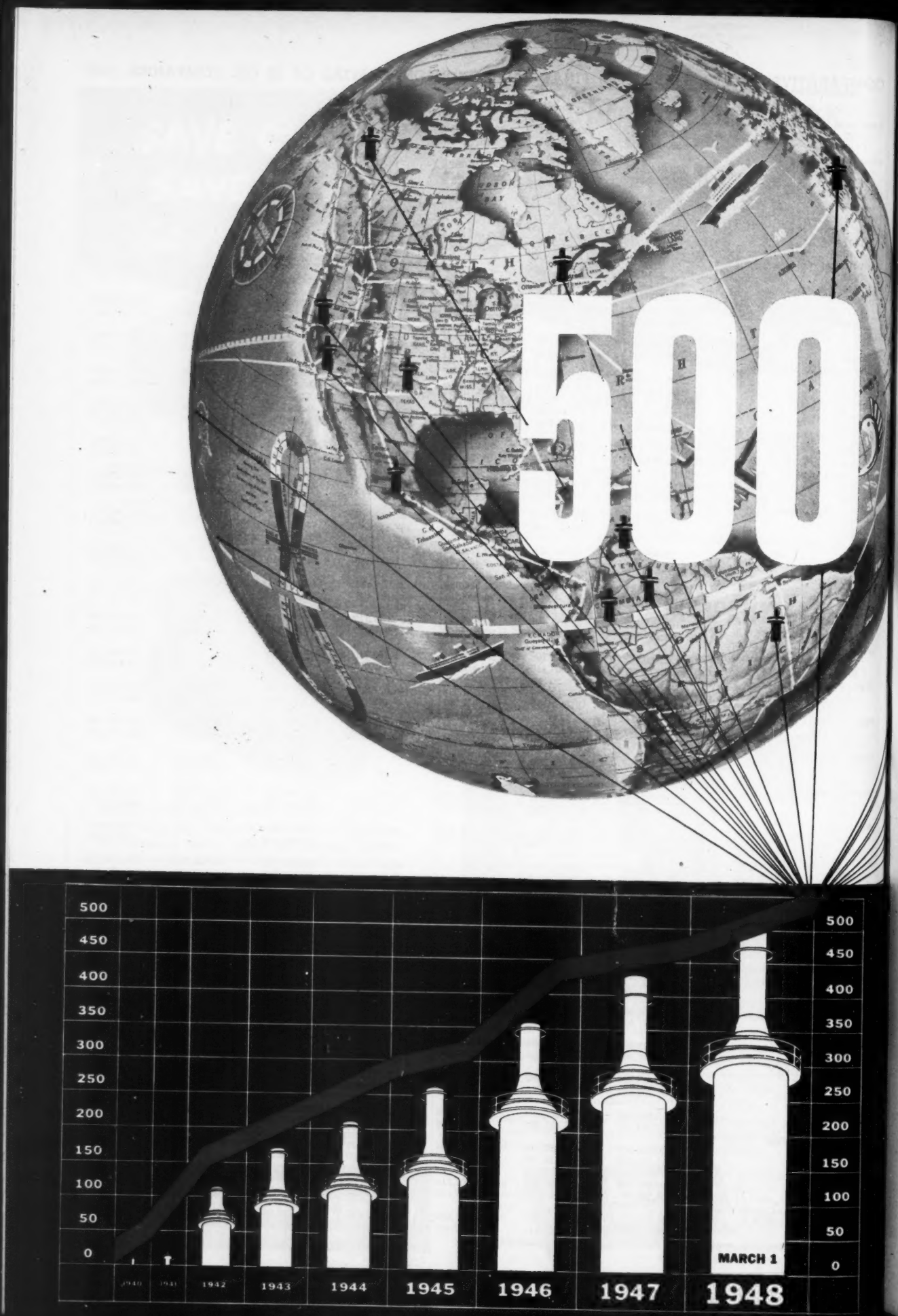
MEMBER ALLOY CASTING INSTITUTE

COMPARATIVE ASSETS, LIABILITIES, FINANCIAL CONDITION, CAPITAL OF 32 OIL COMPANIES, 1947

	Total assets	Net property account	Current assets	Current liabilities	Net working capital	Senior obligations*	Common stock and surplus
Amerada Petroleum Corp.:							
1947	$52,640,382	$23,891,321	$26,711,269	$7,655,209	$19,056,060	$.....	$42,597,515
1946	39,429,327	20,080,891	17,691,768	4,780,543	12,911,225	.....	32,409,938
Atlantic Refining Co.:							
1947	329,644,730	224,124,689	96,571,654	39,012,054	57,559,600	†84,210,000	197,659,171
1946	296,265,402	205,560,012	80,755,884	37,524,100	43,231,784	†62,211,229	188,147,554
Barnsdall Oil Co.:							
1947	41,066,492	23,417,011	17,294,696	5,446,450	11,848,246	.....	35,570,143
1946	32,076,728	19,222,630	12,355,744	3,239,470	9,116,274	.....	28,783,176
Cities Service Oil Co.:							
1947	899,585,227	590,411,772	239,982,495	105,891,674	134,090,821	487,244,688	213,717,841
1946	859,270,995	545,225,097	259,365,363	83,801,500	175,563,863	†448,803,297	108,601,241
Continental Oil Co.:							
1947	209,224,483	119,081,476	76,039,077	36,927,224	39,111,853	1,790,493	168,631,457
1946	178,182,508	109,472,845	58,929,410	27,994,220	30,935,190	1,118,925	147,111,348
Gulf Oil Corp.:							
1947	929,168,890	574,134,962	268,916,577	139,375,492	129,541,085	184,601,035	534,588,569
1946	722,319,472	482,443,846	177,684,334	94,462,910	83,221,424	79,672,985	470,815,267
Houston Oil Co.:							
1947	54,310,149	37,826,790	9,955,256	2,743,900	7,211,356	9,500,000	42,066,249
1946	50,465,727	37,314,557	7,150,878	1,846,954	5,303,924	9,500,000	39,118,773
Humble Oil & Refining Co.:							
1947	704,163,263	481,690,757	218,419,223	101,937,947	116,481,276	42,366,492	559,379,822
1946	591,498,701	437,500,998	151,072,265	58,970,465	92,101,800	47,739,798	489,199,985
Lion Oil Co.:							
1947	39,348,196	20,663,888	16,712,994	7,383,570	9,329,424	5,150,000	26,732,605
1946	32,930,212	14,389,530	16,515,058	6,350,804	10,164,254	5,600,000	20,789,513
Mid-Continent Petroleum Corp.:							
1947	115,647,714	52,318,269	62,373,126	20,115,114	42,257,012	.....	92,126,717
1946	94,818,113	44,163,951	49,788,236	13,241,578	36,546,658	.....	80,157,650
Ohio Oil Co.:							
1947	163,773,023	95,033,850	61,477,567	21,108,101	40,339,466	3,000,000	139,576,609
1946	143,787,820	81,024,999	56,344,311	13,768,426	42,575,885	8,000,000	121,379,020
Phillips Petroleum Co.:							
1947	439,289,341	291,393,262	116,233,019	52,025,678	64,207,341	41,884,723	332,749,714
1946	332,059,139	236,560,086	77,513,861	32,963,352	44,550,509	43,833,210	248,006,053
Plymouth Oil Co.:							
1947	22,346,212	16,081,039	4,251,803	1,498,972	2,752,831	5,298,578	14,729,422
1946	17,742,992	13,422,934	2,428,601	1,281,882	1,146,719	3,608,307	12,060,200
Pure Oil Co.:							
1947	244,540,177	157,628,084	71,526,853	22,824,622	48,702,231	†76,799,642	134,847,067
1946	222,767,970	136,931,651	70,230,412	18,191,496	52,038,916	†75,308,011	121,833,828
Richfield Oil Corp.:							
1947	109,179,520	60,799,810	43,625,297	14,900,975	28,724,322	1,000,000	93,075,898
1946	101,139,232	49,384,341	48,645,057	12,341,922	36,303,135	1,182,915	87,411,746
Seaboard Oil Co.:							
1947	22,990,462	8,784,163	11,984,738	3,799,740	8,184,999	.....	18,908,721
1946	17,270,427	8,557,413	6,519,117	1,750,071	4,769,046	.....	14,979,354
Shell Union Oil Corp.:							
1947	533,911,823	276,657,900	218,711,715	104,037,890	114,673,825	122,995,000	306,878,933
1946	470,979,089	191,962,583	244,042,741	64,462,782	179,579,959	124,000,000	265,313,141
Sinclair Oil Corp.:							
1947	591,280,181	298,370,081	263,519,115	89,540,621	173,978,494	156,371,677	340,562,461
1946	484,742,722	242,091,785	213,532,671	65,008,120	148,524,551	108,431,680	306,750,958
Skelly Oil Co.:							
1947	128,997,797	88,030,205	39,895,934	18,783,683	21,112,251	15,600,000	92,608,112
1946	102,458,378	74,599,381	26,798,713	10,107,322	16,691,391	16,400,000	73,970,633
Socony-Vacuum Oil Co., Inc.:							
1947	1,261,974,200	637,748,563	419,923,647	154,277,476	265,646,171	120,000,000	921,555,710
1946	1,135,165,509	577,619,321	380,815,326	114,733,027	266,082,309	100,000,000	850,873,105
South Penn Oil Co.:							
1947	43,226,085	10,125,591	26,686,586	4,114,989	22,571,597	.....	33,230,980
1946	43,661,397	10,511,288	26,068,795	3,429,375	22,639,420	.....	34,486,668
S. O. of California:							
1947	876,185,264	606,011,265	189,491,341	86,217,557	103,273,784	44,796,559	709,546,138
1946	785,467,400	519,861,157	148,183,068	57,809,128	90,373,940	40,000,000	645,833,613
S. O. of Indiana:							
1947	1,268,103,846	797,689,716	334,612,358	138,322,078	196,290,280	174,346,231	924,870,060
1946	1,065,901,190	637,231,383	303,478,563	113,507,648	189,970,915	66,982,830	860,560,177
S. O. of Kentucky:							
1947	69,172,495	25,876,044	38,358,520	21,948,624	16,409,896	.....	46,423,871
1946	59,397,318	21,781,292	33,042,348	16,427,870	16,614,478	.....	42,169,447
S. O. of New Jersey:							
1947	2,995,989,693	1,524,122,335	1,100,562,987	410,494,412	690,068,575	213,297,804	1,817,822,486
1946	2,659,987,889	1,274,429,578	1,023,080,393	284,049,184	739,031,209	198,206,986	1,655,321,635
S. O. of Ohio:							
1947	188,866,085	101,377,991	75,395,384	38,571,386	36,823,998	†41,561,765	107,416,589
1946	151,567,301	84,744,301	61,320,191	30,657,663	30,662,528	†41,961,835	77,597,239
Sun Oil Co.:							
1947	242,302,954	136,500,595	95,883,486	48,165,168	47,718,318	†10,425,348	176,246,697
1946	206,542,984	114,622,553	79,980,160	30,317,755	49,662,405	†16,070,614	156,794,317
Sunray Oil Corp.:							
1947	105,110,629	86,186,293	17,194,986	9,171,460	8,023,526	†57,632,500	36,720,484
1946	91,135,534	78,274,260	13,035,399	3,990,479	9,044,920	†55,993,160	30,258,491
Texas Co.:							
1947	1,115,344,831	487,204,696	467,501,875	103,721,227	363,780,648	146,846,291	828,637,894
1946	917,301,939	413,883,965	322,018,800	90,991,480	231,027,320	147,093,062	640,598,841
Texas Pacific Coal & Oil Co.:							
1947	20,658,567	16,252,440	4,325,244	1,191,615	3,133,629	.....	19,361,260
1946	17,595,228	14,128,133	3,389,140	632,589	2,756,551	.....	16,957,591
Tide Water Associated Oil Co.:							
1947	262,801,222	153,000,270	97,767,219	42,231,671	55,535,548	†28,828,300	189,602,397
1946	238,598,781	140,154,130	84,437,196	33,701,260	50,735,936	†36,546,800	162,696,802
Union Oil Co. of California:							
1947	271,827,491	178,407,499	85,801,680	24,765,093	61,036,587	†79,100,000	166,631,006
1946	238,625,817	166,822,441	63,912,406	18,646,474	45,265,932	†64,500,000	154,257,170

*Long-term debt and preferred stock. †Includes preferred stock.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JOURNAL-*Guide* TO

Mush Creek Field

Weston County, Wyoming

DRILLING in Mush Creek field, Weston County, Wyoming, has been extremely active for the past 6 months. There are now 14 rigs running and it is apparent that this field will be the most active in Wyoming during the coming year, with additional rigs already being moved into the district.

Pays.—Production in the field is from the so-called "Newcastle" sand, probably equivalent to the Muddy formation through the Powder River basin generally. The field differs from most Rocky Mountain accumulations because instead of being structural, the oil is found in stratigraphic traps along an old shore line, where the Powder River basin laps up on the west flank of the Black Hills uplift. The pay, or pays, are generally found at between 3,800 and 4,200 ft.

Casing and bits.—The casing pattern is simple, 150 to 200 ft. of surface pipe, generally 10¾ in. set with 200 sacks of cement; 5½ or 7-in. pipe run to the top of the sand, and also set with about 200 sacks of cement.

A 13-in. guide bit is used to drill hole for the surface string. Then about seven 9-in. rock bits will usually make hole to the top of the sand. After setting pipe, the pay section is drilled with a 5-in. rock bit.

Frontier Drilling Co. of Denver's experience on the Walter Bradley et al 2 Lola Bradley, SE SW SW 8-44n-63w, was a rather typical well, and followed the above pattern. The well was spudded November 28, 1947, and completed December 21, 1947. Four tons of bentonite mud and 300 lb. of Driscose were used on this well.

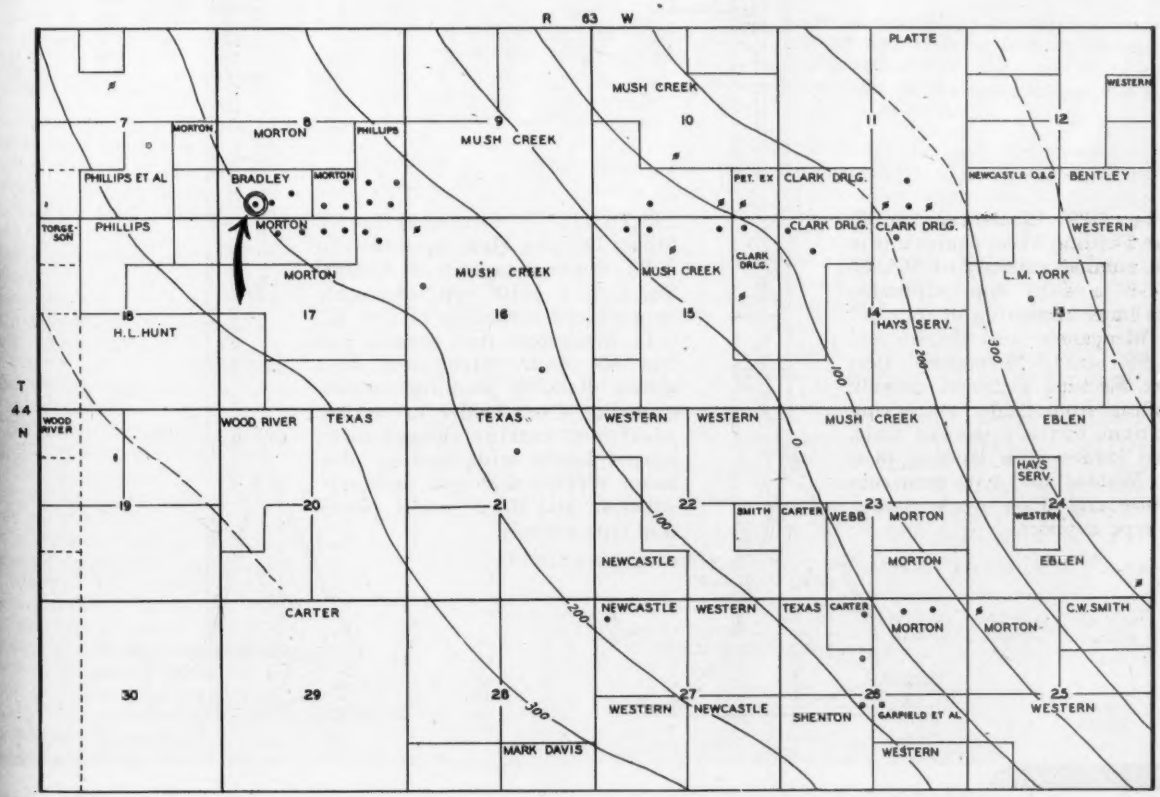
Contract terms.—The majority of the contracts are on a footage basis, reportedly ranging from $4.50 to $5.00 per foot. The contractor prepares the location, supplies derrick, water, and fuel. The operator supplies cement and pays for the mud.

Drilling condition.—There are both steam and power rigs operating, but the majority are power rigs. There is generally not enough gas available locally for drilling, and most of the future drilling is apt to be by power rigs.

There are no particular shale problems, either heaving, caving, or sloughing; no high-pressure gas or water flows have been encountered. A very few of the wells have had lost-circulation problems, but as a rule no such problems are encountered. No particular problems have been noted in drilling limes.

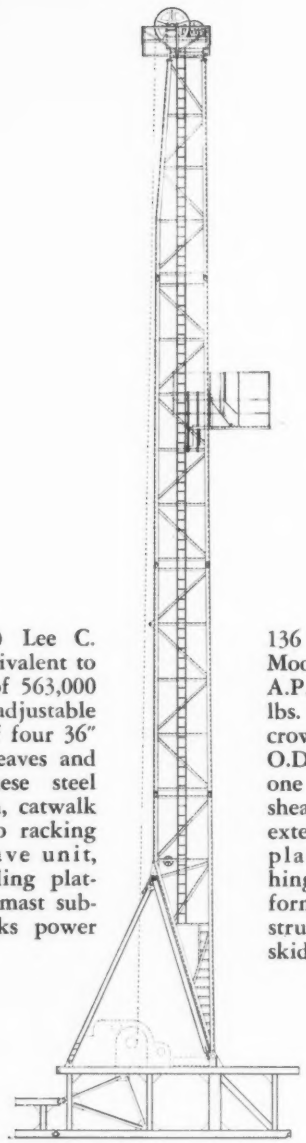
Drilling time averages between 20 and 25 days, including rigging-up time. Frontier Drilling Co. on the 2 Lola Bradley had the following breakdown: 5 days rigging up, 12 days drilling (bit on bottom); 2 days running casing and waiting on cement; 4 days miscellaneous; total time 23 days.

Companies.—Carter Oil Co., Ohio Oil Co., and Phillips Petroleum Co., among the larger companies have acreage, and there are quite a few independents in the play. (See map).

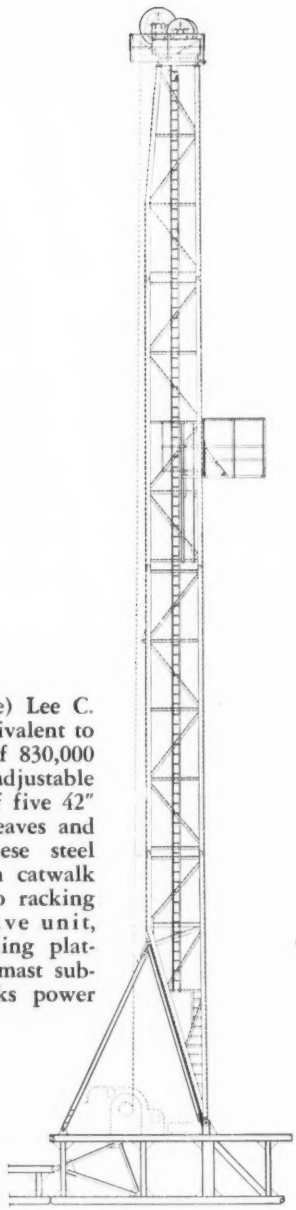


LEE C.

BIG MASTS



129 Ft. (129′ Clearance) Lee C. Moore Drilling Mast, equivalent to A.P.I. nominal capacity of 563,000 lbs. 4′-3″ x 4′-10″ top, adjustable crown block consisting of four 36″ O.D. Manganese steel sheaves and one 56″ O.D. Manganese steel sheave. Racking platform, catwalk extending from ladder to racking platform, catline sheave unit, hinged ladder with landing platform. Welded skid type mast substructure and draw works power skid type support.



136 Ft. (137′-2″ Clearance) Lee C. Moore Drilling Mast, equivalent to A.P.I. nominal capacity of 830,000 lbs. 4′-6″ x 5′-10″ top, adjustable crown block consisting of five 42″ O.D. Manganese steel sheaves and one 60″ O. D. Manganese steel sheave. Racking platform catwalk extending from ladder to racking platform, catline sheave unit, hinged ladder with landing platform. Welded skid type mast substructure and draw works power skid type support.

QUESTIONS on TECHNOLOGY

by W. L. Nelson

Consulting Engineer

This department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in various phases of plant operation, as well as those connected with the marketing and utilization of petroleum products. Readers are invited to submit their problems to W. L. Nelson, technical editor. Inquiries must be signed, but only the initials will be printed.

Density of Vapors In Cracking Oils

On page 509 of your Petroleum Refinery Engineering you state that the density of the vapor is high, and hence little or no stratification of the mixture occurs, etc. Can you enlarge upon the word stratification?—J. G. F.

The discussion on page 509 pertains to the prevention of coke formation in the tubes of a cracking still. The oil should be subjected to cracking temperatures for only 130-170 seconds, and hence the liquid part of the mixture must not settle out. If the liquid accumulated on the walls of the tubes or flowed along the bottom of the tube, it would be exposed to the high temperature for many minutes and would be cracked into coke.

In some degree the liquid is prevented from separating or stratifying by the use of a high pressure. As an example, the following are approximate densities of liquid and vapor at several temperatures and pressures:

	Lb. per cu. ft.
10° A.P.I. cracked fuel oil:	
At 60° F. and atmos. press.	62.4
At 910° F. and 300 psia.	38.5
At 910° F. and 600 psia.	40.9
25° A.P.I. cracked vapor mixture:	
At 910° F. and atmos. press.	0.30
At 910° F. and 300 psia.	5.48
At 910° F. and 600 psia.	22.40

Thus, at atmospheric pressure the liquid is over 100 times as dense as the vapor whereas at 600 psia. the liquid is only twice as dense as the vapor. Of course, such mixtures will separate from each other or stratify unless they are continually mixed, but at a velocity of 18-30 ft. per second (at 350 psia.) the vapor and liquid flow along as a substantially homogeneous mixture. Although much of the above is theoretical, the fact remains that coking does tend to take place at lower pressures.

The reaction chamber pressures of 225-275 psia. sometimes encountered in Dubbs cracking plants might appear to be an exception. This, however, is a different situation because the oil-vapor mixture is at a higher pressure as it flows through the heated tubes of the pipestill. In addition, the mixture usually enters the top of the reaction chamber, and hence the liquid part of the mixture drops to the bottom and is rapidly discharged along with the large amount of vapor. Finally, the reaction chamber is not heated which means that liquid on the walls will not coke rapidly.

References on Reclaiming Lubricating Oil

Can you direct me to complete information on the recovering of good lubricating oil from crankcase drainings, garages, truck fleets, barges, etc.? I would appreciate any information on firms which are doing this type of reclamation work as well as firms producing various types of purifiers.—L. M. H.

The reclaiming and purifying of used lubricating oils is practiced extensively. Nevertheless, the plants are small (up to about 200,000 gal. per month) and hence standard processes of reclaiming or of re-refining are not completely described in the technical literature. When bulk lubricating-oil blending stocks are cheap, reclaiming operations are not profitable, but during periods of high cost or shortage, such as the period of 1930-1935 when neutral oils were scarce, and during the recent war or thereafter, used crankcase oils are in demand and may be worth up to 5 cents per gallon at the filling station.

Processing ranges from simple operations of settling and filtration through adsorbent clay to complicated re-refining systems which are nearly as complete as the methods originally used by petroleum refiners in producing lubricating oils.

Discussions (17 items) which appeared on this page during 1927-1939 while Dr. C. K. Francis conducted the Questions on Technology page, are listed on page 125 of the issue of July 27, 1940. More recent references and a few patents are:

1. Brower, G. K.: Re-Refining of Aircraft Engine Oils, Nat. Pet. News, 35, No. 14, R-172-4 (1943).

2. Pomeroy, R. G.: The Contamination Deterioration and Decomposition of Lubricating Oils in Service, J. Inst. Pet., 30, 95-133 (1944).

3. Corigan, B.: Oil Purification, Filtration and Reclamation, Iron Age, 159, No. 14, 56-62 (1947).

4. Lykins, J. D.: Reclamation of Oils, Iron Steel Eng., 23, No. 10, 69-74 (1946).

5. Roberts, W. J.: Oil-Reclaiming Installation, Power & Works Engr., 39, 223-6,228 (1944).

6. Boynton, W. S.: Refining Practice Paralleled in Used Oil Reclamation, Aero Digest, 45, No. 3, 99-100, 128 (1944).

7. Bailey, C. A.: Oil Filtration and Reclamation, Iron Steel Engr., 19, No. 5, 61-9 (1942).

8. Walker, J. E.: Recovery of Used Lubricating Oil, Chem. Age (London), 45, 155-6, 182-2 (1941).

9. Frank, F.: Recovery of Used Lubricating Oil, Chem. Age (London) 44, 312 (1941).

10. Hobson, R. B.: Reclamation of Lubricating Oil in Britain a National Necessity, Petroleum Times, 45, 659-60, 679 (1941).

Patents

1. Greger, H. H., U. S. 2,303,546.
2. Musselman, J. M., U. S. 2,393,335.
3. Oberfell, G. G., U. S. 2,339,717
4. Holt, C. E., U. S. 2,268,706.
5. Ehlers, Leman, U. S. 2,274,132.
6. Miller, James, U. S. 2,286,369.
7. Dunmire, Russell, U. S. 2,303,262.
8. Livingston, Myron, U. S. 2,419,579.

Solubility of Oils in Water

We are developing a treating process in which water is used to wash the gasoline. Can you direct us to information on the solubility of oils in water?—R. C. R.

Perhaps the only information on this subject is that of Jaeger in the German Brenstoff-Chem. Vol. 4, page 259 (1923). The solubility is very low at regular temperatures but at high pressures (and temperatures) it becomes significant. Table 1 indicates his information but the data have been smoothed out by Griswold and Kasch (I.E.Ch. Vol. 34, page 804, 1942) and estimates of molecular weight were made.

On a weight-per-cent basis, the solubility of the 120-M.W. or a gasoline-like fraction at 302° F. is only 0.02 per cent, whereas the 135-M.W. oil has a weight percentage solubility at 572° F. of 3.52 per cent.

TABLE 1—APPROXIMATE SOLUBILITIES OF HYDROCARBONS AND OILS IN WATER, MOL PER CENT

Temp. °C.	Temp. °F.	Pressure minimum (psia.)	Benzene	Toluene	Xylene	120 M.W. fraction	135 M.W. fraction	165 M.W. fraction
50	122	1.78	0.0145	*0.0028	*0.0013	.....	.....	.....
100	212	14.7	0.042	0.01	0.0043	.....	.....	.....
150	302	69.0	0.125	0.038	0.015	0.003	0.0022	.....
200	392	225.0	0.39	0.135	0.050	0.0165	0.013	0.004
250	482	575.0	1.15	0.52	0.165	0.098	0.078	0.039
300	572	1,242.0	3.4	1.9	*0.57	0.58	*0.47	.....

*Extrapolated.

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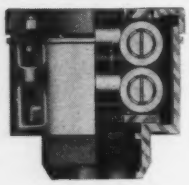

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... the slips that fit any drill collar—new or worn, round or out-of-round!

- W-r-a-p around the drill collar like a chain tong for perfect fit at all times!
- Automatically compensate for drill collar wear, taking same safe grip under all conditions!
- Light and easy for crew to handle!
- Liners easily renewed for maximum gripping efficiency and long life!

Baash-Ross Drill Collar Slips are available in two types—"Regular" type and "Long" type with extensions for use with Baash-Ross Safety Clamp. See them at ...

BOVAIRD SUPPLY CO. (Block 1)
FRANKS MFG. CORP. (Block Z)
MID-CONTINENT SUPPLY CO. (Block 3)

BAASH-ROSS "DB" Unitized Blocks

with choice of integral Link Adapter or Hook Units!

- Block and connector are unitized into ONE compact assembly to save valuable space in derrick!
- Both the Link Adapter and Hook are free-swiveling—or may be locked in any of 8 positions!
- Link Adapter and Hook are spring-loaded for added safety and convenience!
- Choice of eleven different sizes ... 1, 2 or 3 sheave models with 20", 24" or 30" sheaves, and 4 sheave models with 30" or 36" sheaves!
- Also all sizes are available in a "Hinged" type where unusually fast line threading is desired!

These Blocks are revolutionizing portable rig operations. Don't miss them. On display at ...

FRANKS MFG. CORP. (Block Z)
UNIT RIG AND EQUIPMENT CO. (Block 12)

BAASH-ROSS Hinged Casing Spider and BAASH-ROSS "UC" Casing Slips

Here is the ideal combination for all modern casing operations.

- Casing Spider can be placed on any rotary table ... or on a platform that replaces rotary table ... or on cribbing—whichever is most convenient!
- Spider is in two parts, hinged together for maximum speed and convenience in placing around casing. Also simplifies handling and transporting!
- Split Spider Liners are easily inserted for adapting to various casing sizes!
- "UC" Casing Slips are segmented for uniform, non-crushing grip on pipe!
- Casing Slips can also be used in regular rotary tables or in Baash-Ross Split Rotary Table Casing Bushings!

Here's the key to safer, faster, more efficient casing jobs. See this equipment at ...

CONTINENTAL SUPPLY CO. (Block 8)

Also, other Baash-Ross products will be on display by Baash-Ross Tool Co. at Booth 33—Silver Lot. Drop in and see us!

XIII

The Refiner's Notebook

A WEEKLY FEATURE OF THE OIL AND GAS JOURNAL

TABLE 2—PIPING WITHIN REFINERY AND GASOLINE PLANT CIRCUITS*
(A correction of Table 2 of Refiner's Notebook No. 192, April 15, 1948)

	Metal stress, psi.				
	Seamless steel pipe†			Welded steel pipe†	
Temp. (°F.)	Grade A A.S.T.M. A-106 A.P.I. 5L	Grade B A.S.T.M. A-106 A.P.I. 5L	Grade C A.P.I. 5L	Lap A.S.T.M. A-53 A.S.T.M. A-106 A.P.I. 5L	Butt A.S.T.M. A-53 A.P.I. 5L
500	13,600	16,600	21,000	9,200	8,400
550	13,100	16,100	20,250	8,950	8,100
600	12,550	15,500	19,500	8,700	7,800
650	12,000	15,000	18,750	8,450	7,500
700	11,400	14,250	17,650	8,000	7,100
750	10,300	12,450	15,100	7,300	6,400
800	9,050	10,400	11,600	.....	.....
850	7,300	7,950	8,100	.....	.....
900	5,500	5,500	5,500	.....	.....
950	3,250	3,250	3,250	.....	.....
1,000	‡2,500	‡2,500	‡2,500	.....	.....

*Outside refinery limits, strengths that are 2.4 (only 2.2 for lap welded) times larger may be used. †For the weakest type of steel (usually rimmed not "killed" steel) allowed. ‡Only "killed" steel recommended.

CORRECTION

The value of allowable metal stress "S" of 12,000 psi. at 750° F. stated in Refiner's Notebook No. 191 (April 8, 1948) should, according to the A.S.A. Code for Pressure Piping, be 10,900 psi. for Grade A Seamless Steel (silicon killed) Pipe. However, the allowable pressure ratings given in Refiner's Notebook No. 191, and in No. 194 (April 29, 1948) are conservatively low because of the tolerance factor of 0.875 that was used.

Also, Table 2 of Refiner's Notebook No. 192 (April 15, 1948) contains the same error and a correct Table 2 is shown here.

Retiring Thickness ¾-In. and 3-In. Pipe

BASIS—GRADE A SEAMLESS STEEL PIPE (BUT A STRESS VALUE "S" OF 12,000 AT 750° F.)

$$t_m = \frac{PD}{2S} + C$$

t_m = minimum thickness, in.

P = internal minus external pressure, psia.

D = actual outside diameter, in.

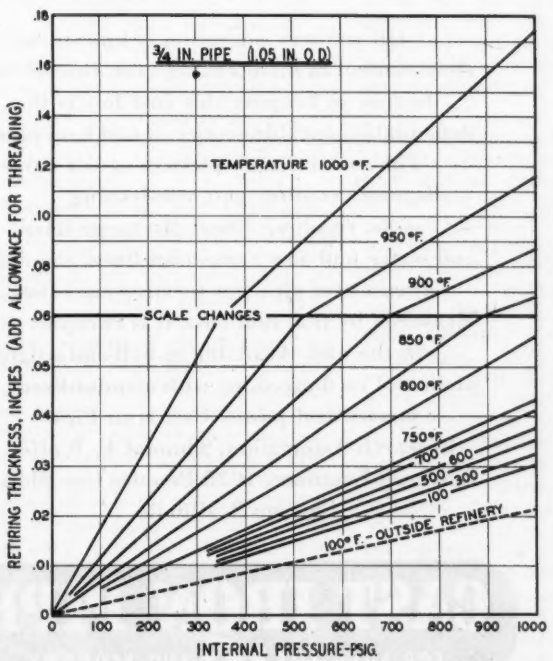
S = allowable metal stress, psi. (see tabulation of materials)

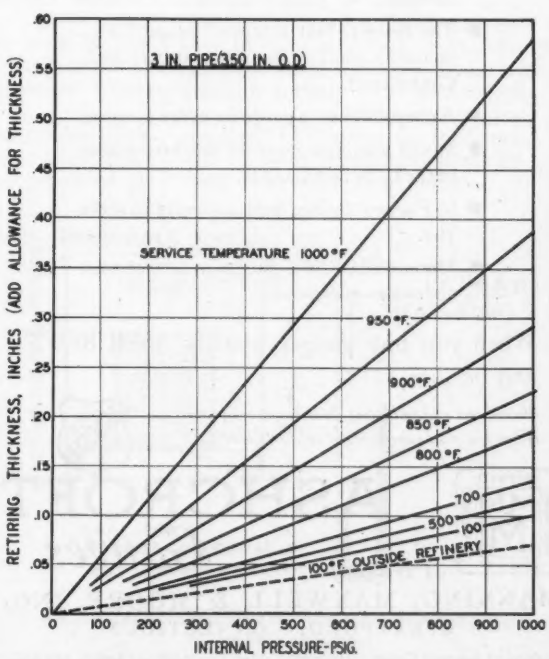
C = allowance for threading, welding, mechanical strength and/or corrosion

Values of C		
Welding		0.05
Pipe threads		
	⅛-in.	0.03
	¼-⅜-in.	0.044
	½-¾-in.	0.057
	1-in.	0.07
	2-in. up	0.10

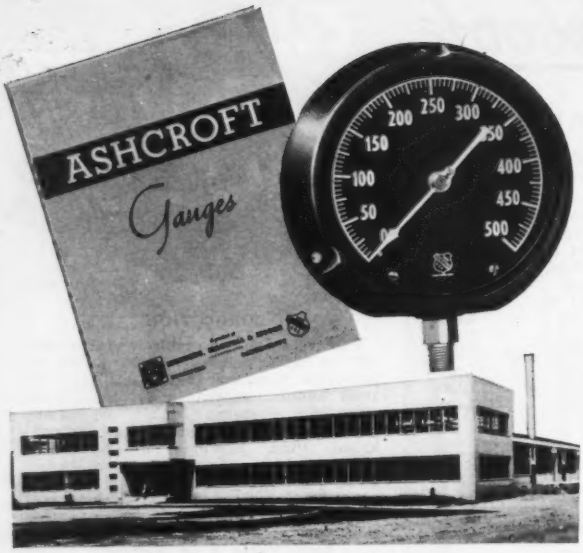
Other materials	Specification	Multiplier for thickness
Grade A seamless	A.S.T.M.-106 A.P.I.-5L	1.0
Grade B seamless	A.S.T.M.-106	.77
Grade B seamless	A.P.I.-5L	.80
Grade C seamless	A.S.T.M.-106, A.P.I.-5L	.64
Lap welded	A.S.T.M.-53, A.P.I.-5L	1.33
Butt welded	A.S.T.M.-53, A.P.I.-5L	1.60

Refer to The Refiner's Notebook No. 192 (Inspection), April 15, 1948, and a correction of Table 2 which appears on this page for a discussion of A.S.A. Code on Refinery and Gasoline Plant Piping, the effect of temperature, etc.





No. 196 in a series by W. L. Nelson, professor of petroleum refinery engineering, University of Tulsa



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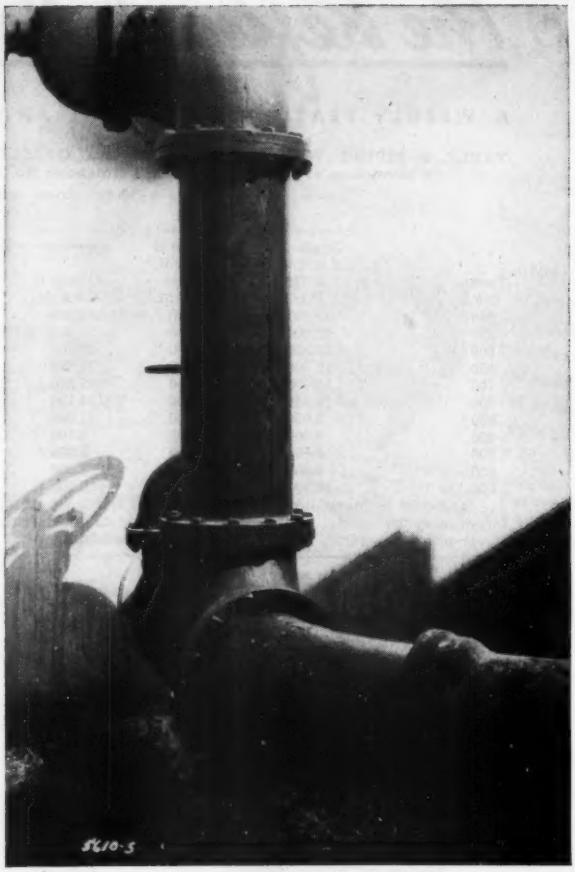

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No. 330

Laboratory Determination of Capillary Pressure Curve

THE use of capillary pressure curves, as discussed previously, is based on the assumption that the sequence of events in the development of a reservoir were (a) presence of water, (b) invasion of oils, (c) retention and distribution of water according to capillary forces. Thus, the amount of connate water found in a reservoir should be that which can be held by capillary forces. This quantity can be measured in the laboratory by a similar sequence of events, and gives a possible method of obtaining a value for reservoir connate water.

The present discussion will outline the laboratory determination of this connate-water value. Although the natural event was displacement of water by oil, in the laboratory it is simpler to displace water by air and the following discussion is based on this practice.

A typical apparatus which is used for the determination of a capillary pressure curve and consequently for determination of connate water is shown in Fig. 1. Many variations of the apparatus are used but the basic principles are the same.

The crux of the entire apparatus is the porous diaphragm, so chosen that it will permit water to flow though it, but will not permit air to flow through it under the pressures necessary. The fulfillment of these conditions means that the diaphragm must have very small pores and must be water wet. Various grades of porcelain are most frequently used for this purpose.

To determine the capillary pressure curve, two quantities must be measured—(1) the water saturation in the core at any time, and (2) the capillary pressure at that same time. By definition, the capillary pressure is the difference in pressure between the water and gas phases in the core. The water saturation can be determined either by weighing the core sample from time to time, or by measuring the volume of water that has been removed from the core sample from time to time. The measurement of the pressure difference between the gas and water phases is accomplished by the presence of the porous diaphragm, as will be explained.

The procedure followed can be explained by reference to Fig. 1. The porous diaphragm must first be completely saturated with water. This is usually best done by filling with water after complete evacuation. On the diaphragm is placed a piece of absorbent tissue or a layer of finely divided powder, the purpose of which is to insure good contact between the diaphragm and the core. The core itself is completely saturated with water and placed on the layer of powder. The apparatus is then closed so that an air pressure can be applied. This pressure is set at some definite and constant value, P_{air}.

Because the diaphragm has been chosen with such a fine pore structure that air cannot penetrate it, there will be no air flow except into the core. Air flow into the core will displace water which itself can pass through the diaphragm. However, air will displace water from the core only to the extent that sufficient water remains to satisfy capillary forces. Therefore, after the pressure P_{air}, is applied, water will be displaced through the diaphragm for a while but eventually all flow will stop and the system will be static.

When the system has reached this point of no flow, the pressure in both the water and air phases within the core is known. The pressure in the air phase is that which has been applied. The pressure in the water phase is atmospheric (the pressure below the diaphragm) minus the head, Δh, from the bottom of the diaphragm to the center of the core. The capillary pressure (defined as pressure in the air minus that in the water) is therefore determined. At this point, the core can be removed from its holder and the weight determined. Weight of the core minus the dry weight gives the weight of water present and consequently the saturation.

The core is replaced in the holder and the process is repeated, a new air pressure higher than the first being used to determine a new capillary pressure and a new saturation. By making a succession of such determinations the entire capillary-pressure curve is obtained and plotted. As explained in a previous discussion on the capillary-pressure curve, the connate-water value is represented by that value of water saturation below which the core cannot be taken.

In procuring such laboratory data, it is usually found that a waiting period of many hours or several days may be necessary before all the water that can be displaced is displaced at a given air pressure setting. It is also found that more consistent results are obtained by increasing the pressure in many small increments instead of in a few large jumps.

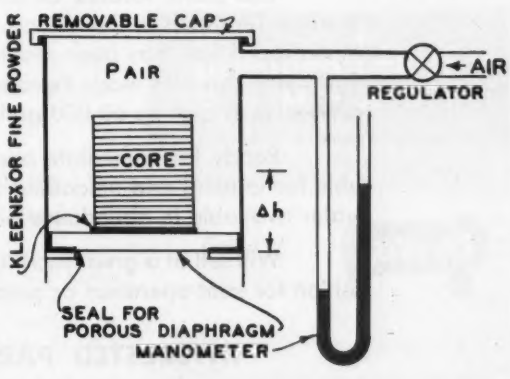

Fig. 1—Typical apparatus for laboratory determination of capillary pressure

Series prepared by Dr. John C. Calhoun, Jr., Petroleum Engineering School, University of Oklahoma

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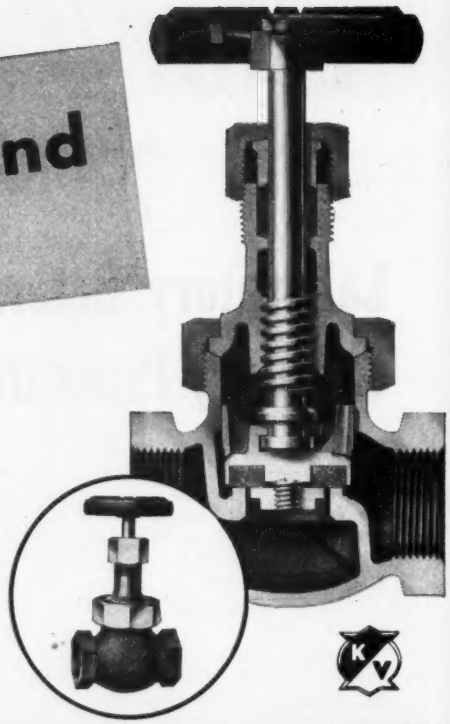
Bronze Globe and Angle Valves



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REFINING

Lion to Start $3,500,000 Expansion Next Month

A $3,500,000 construction program by Lion Oil Co., whereby the anhydrous ammonia capacity of the chemical plant at El Dorado, Ark., will be increased by 32.6 per cent, is expected to get under way next month. The new project also provides for construction of additional storage for ammonia made necessary by the proposed increase in production from 430 to 570 tons per day.

Plant enlargement will be designed and supervised by Chemical Construction Corp. of New York. Completion of the entire project is scheduled for the spring of 1949.

The increased capacity of the chemical plant will furnish an additional 50,000 tons annually of ammonia having a nitrogen content of approximately 83 per cent, and will represent a major contribution to the supply of the material which is now critically short, according to Col. T. H. Barton, chairman of the board.

New Gas-Turbine Engine Developed in Britain

Inventors of a gas-turbine engine for automobiles recently exhibited in Great Britain, claim the new engine will eliminate fumes and vibration from automobiles.

The engine measures 5 ft. in length, is 7 in. square, and weighs 250 lb. It is designed to develop 160 brake horsepower and can be adapted to any type of oil fuel. Officials of the industrial fair where the new engine was exhibited claim the unit is completely self cooling, and needs no radiator, water jacket, circulating pump, nor thermostat.

The engine was invented and developed by Geoffrey White and Richard Barr, jet scientists.

W.P.R.A. Regional Meeting Set for Wichita, June 11

Reports by Hugh Wiant, Combustion Research & Development, Inc., Jersey City, N. J., and George Ellerton, Jr., American Arch Co., New York, will highlight the regional technical meeting of the Western Petroleum Refiners Association to be held in the Broadview Hotel, Wichita, Kans., June 11.

Wiant will present a paper on "Combustion and Efficiency." Ellerton will report on "Fundamental Principles of Design of Suspended Arches and Sectionally Supported Walls." Discussion from the floor will follow each of the papers.

1,000,000-Gal. Oil Depot Planned at Port Burwell

PORT BURWELL, Ont.—Graham Oil Co. of St. Thomas will build a 1,000,000-gal. oil storage depot on the west side of Port Burwell harbor, where the company has leased 5 acres of government property.

Seven Companies Form Fire-Fighting Concern

CORPUS CHRISTI.—Seven refining and oil-transportation companies have organized the Corpus Christi Refinery-Terminal Fire Co. as a cooperative enterprise to deal with fire emergencies in the Corpus Christi area.

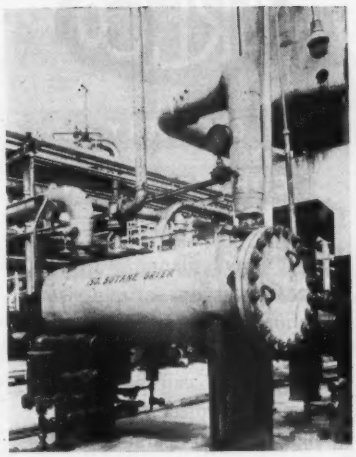
The newly incorporated company will assist in maintaining fire-fighting facilities for rapid mobilization. The equipment will supplement that now owned by the Nueces County Navigation District.

Officers of the new company are J. T. Dickens, Magnolia Petroleum Co., president; J. L. Sewell, Taylor Refining Co., vice president; R. R. Reed, Pontiac Refining Co., secretary; F. P. Petersen, Jr., Southern Minerals Corp., treasurer; and LaRue Haley, assistant treasurer. Directors are Dickens, Sewell, Reed, Petersen, W. C. Montgomery and W. H. Lester, Texas Pipe Line Co.; Charles H. Clark, Southern Minerals; H. E. Ammerman, Republic Pipe Line Co.; and G. W. Stephenson, Southwestern Oil & Refining Co.

S.A.E. Group Will Study Engineering, Fuel Trends

A cross section of automotive engineering and fuel trends will highlight the Society of Automotive Engineers annual summer meeting at French Lick Springs Hotel, French Lick, Ind., June 6-11.

A progress report on the dual fuel system will be given by W. M. Holaday, director of the Socony-Vacuum laboratories, New York; antidetonant injection of gasoline to better utilize



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potential power of fuels will be explained by C. H. Van Hartesveldt, Thompson Vita-Meter Corp., Cleveland; and R. I. Potter, Standard Oil Co. (Ohio) will discuss injection for diesel engines.

Explanation of production and performance of diesel fuels will be given by J. W. Barringer, Chicago, Indianapolis & Louisville Railroad, and John R. MacGreggor, G. R. MacPherson, and P. L. Pinotti, California Research Corp, San Francisco.

A new-engine symposium is scheduled to be presented by G. A. Sprague, Packard Motor Car Co., Detroit, and Paul Huber, Willys-Overland Motors, Inc., Toledo.

Evaluation of fuel volatility will be the subject of a paper by H. G. Gibson, Ethyl Corp., Detroit, and J. E. Taylor, Gulf Research & Development Corp.

Tank-Car Shipments Going To Lake Charles Refinery

Crude oil is moving by tank car to Cities Service Oil Co.'s Lake Charles, La., refinery at the rate of more than 2,500 bbl. daily, according to a company announcement.

Tank-car movements are expected to be suspended upon completion of pipe lines now under construction, connecting West Texas fields with East Texas junction points.

The company's Lake Charles refinery has a rated capacity of 110,000 bbl. daily and a cracking capacity of 95,000 bbl. daily.

Gulf's Port Arthur Units To Be Finished This Year

In line with the continuing expansion program of Gulf Oil Corp., three crude-oil distillation stills, each having a capacity of 20,000 bbl. daily, are now under construction at Port Arthur, Tex. A 32,000-bbl.-per-day polyform refining unit also is being erected at Port Arthur. These projects are scheduled for completion this year.

At Philadelphia a 16,000-bbl.-daily polyform unit is under construction which is to be completed in 1948. Modernization of the company's Toledo and Cincinnati, Ohio, refineries now under way is scheduled for completion next year.

Conoco 1947 Throughput Tops 123,000 Bbl. Daily

Daily average output during 1947 of the seven company-owned and operated refineries of Continental Oil Co. amounted to 123,768 bbl. Of this figure 77,880 bbl. daily was from crude stills and the remainder from cracking stills. The daily average production represents 128 per cent of the plant capacity ratings.

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NATURAL GAS

Electric Utilities' Use Of Gas Up 7.4 Per Cent

Electric utility power plants consumed natural gas totaling 30,293,059 M.c.f. during March, an increase of 29.4 per cent over the same month a year ago, and 7.4 per cent above the consumption of a month earlier.

Fuel oil consumed during March totaled 4,255,631 bbl., an increase of 19.4 per cent compared with March 1947 and an increase of 6.3 per cent compared with February this year. Based upon March use, fuel-oil stocks on hand April 1 were sufficient to last 46 days, compared with 45 days a month before and 47 days a year ago. Stocks totaled 6,377,108 bbl.

Supreme Court Rules Out Republic Appeal

The U. S. Supreme Court last week in a 5-4 decision dismissed Republic Natural Gas Co.'s appeal from a decision of the Oklahoma Supreme Court requiring it to take gas ratably from a well owned by Peerless Oil & Gas Co.

The five-member majority ruled that the court lacked jurisdiction since other legal steps still remained open to Republic. The dissenting members held that the Oklahoma court's decision was correct and that final decision should not be deferred.

Republic's gas wells in the Hugoton gas field, surround the area where the Peerless well was drilled. Republic operates a pipe line system for selling its own gas. Peerless has no pipe line or market for its gas.

The Oklahoma commission found Republic is draining gas from underneath the section where the Peerless well was drilled, thus preventing Peerless from taking its proportionate share of the fuel. The commission said Oklahoma law required Republic to buy gas from Peerless under such circumstances. The Oklahoma Supreme Court upheld the commission. Republic appealed to the Supreme Court.

Natural Gas Sales Reach Highest Level in History

Natural-gas sales of the gas-utility industry for March totaled 2,731,091,000 therms, an increase of 8.8 per cent over the same month a year ago, according to a report of the American Gas Association. March sales of natural gas were 165,193,000 therms below those of February.

For the 12-month period ending March 31, 1948 natural-gas sales amounted to 26,186,028,000 therms, an increase of 11.6 per cent over the previous year.

Due to changeover to straight natural gas by several important companies, sales of mixed gas for March declined to 146,140,000 therms, a decrease of 20.9 per cent from the same month a year ago. For the 12-month period mixed-gas sales totaled 1,351,950,000 therms, a decline of 2.9 per cent compared with the year ended March 31, 1947.

On March 31, 1948, the index of natural-gas sales stood at 240.9 per cent of the 1935-39 average, the highest level on record.

Lone Star Gas Cuts Expansion Program

A reduction from $25,000,000 to $16,000,000 in the expansion and improvement program for 1948 has been announced by Lone Star Gas Co. Inability to obtain materials is the only reason for the change in plans, company officials said.

Gas Industry Steel Needs Set at 3,023,000 Tons

Steel needs of the gas-utility industry for the last three quarters of 1948 and first three quarters of 1949 have been estimated by two industry committees at 3,023,300 tons.

An American Gas Association committee has estimated that 805,900 tons of steel and 211,400 tons of cast iron will be needed for plant structures and equipment.

A natural-gas committee appointed by the American Petroleum Institute has estimated that natural-gas companies will require 2,217,400 tons of steel for gathering and transmission lines.

The committees were headed by Alexander Macomber, director of Portland Gas Light Co., Boston, and N. C. McGowen, president of United Gas Pipe Line Co., Shreveport, respectively. The estimates, according to the A.G.A., are not the basis for expansion programs of any kind.

Of the total requirement for gathering and transmission lines, the committee estimated that 2,191,900 tons would be required for line pipe.

By various diameters the needs were broken down as follows: 16 in. and larger, 1,720,00 tons; 6⅝ in. to 14 in., 368,000; 4 in. to 5 in. (seamless or welded), 34,400; 3½ in. and smaller (seamless or welded), 16,600.

Natural Gasoline

Humble to Build Three Natural-Gasoline Plants

HOUSTON.—Humble Oil & Refining Co. has announced plans for three new natural-gasoline and two new gas-injection plants to be built this year which will process a total of 186,000,000 cu. ft. daily.

New units to be built are at Conroe on the Gulf Coast, Pickton in East Texas, and Opelousas, La. Gas-injection plants will be constructed at Seeligson and Kelsey in Southwest Texas.

Total cost of the program was placed at $11,837,000. Humble described the work as a continuation of its long-range gas-conservation program and pointed out it spent about $5,000,000 on such facilities in 1947, increasing the amount of gas utilized by about 80,000,000 cu. ft. daily to a total of 60,000,000 cu. ft.

At Conroe, a new plant for high propane recovery will replace existing facilities. Residue gas will supply Humble's artificial lift requirements in Conroe field and go into the Tomball gas system which will be extended at a cost of $300,000. Initial investment at Conroe will be $4,160,000 but future developments will bring the cost to about $5,735,000.

The Seeligson gas-injection plant will handle initially about 20,000,000 cu. ft. daily. Expenditures this year will be about $1,336,000; plans call for developing the property into a gasoline plant in the future with a total ultimate cost estimated at about $9,545,000. This plant will return to producing formations Humble's casing-head gas that is now being flared in Borregas, Seeligson, and Tijerina-Canales fields. The Kelsey plant will be similar to the initial Seeligson plant. It will handle about 18,000,000 cu. ft. daily. Initial cost will be about $1,408,000 with a total cost of $1,633,000 when completely developed.

The Pickton absorption-type gasoline plant will process Pickton casing-head gas, and residue will be returned to the reservoir in a pressure-maintenance system. Initial cost at Pickton will be about $2,133,000. Another absorption-type plant will be built at Opelousas with a capacity of 100,000,000 cu. ft. daily. It will process wet gas passing through Interstate Gas Co.'s line. Cost is estimated at $2,800,000.

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Among the

Drilling Contractors

McVay & Stafford Drill Big New Mexico Discovery

McVay & Stafford Drilling Co., Tulsa, has brought in an important New Mexico discovery well for Mid-Continent Petroleum Corp., that concern's 1 Sawyer, SW SE 27-9s-36e, near Cross Roads in northern Lea County.

The Tulsa contract firm, which is a partnership of C. R. McVay and C. J. Stafford, drilled the 12,258-ft. discovery in 147 days with a rig designed for 6,000 ft. Mid-Continent Petroleum officials were highly pleased with this remarkable drilling record.

The 1 Sawyer is a rank wildcat and attracting much attention throughout the industry. Well was completed through ¾-in. choke for 4,000 bbl. daily.

District A.A.O.D.C. Meetings

Five district chapter meetings of American Association of Oilwell Drilling Contractors have been scheduled for May, Brad Mills, executive vice president, has announced.

Chapters to hold meetings are: San Antonio, May 10; Midland, May 12; Tulsa, May 19; and Oklahoma City, May 24. A meeting in Wichita is planned for late in the month.

Acme Drilling Co. is contractor for Royalty Service Corp. 1 Draper, Huntington Beach field, California. Acme also has contract for a Douglas Oil Co. well at Cat Canyon.

Jackson Drilling Co. is making hole on El Dorado Refining Co. et al 1 Sam Christenson, NW NW NW 12-8-1, McPherson County, Kansas. This wildcat is 1½ miles east of Paden pool and 1½ miles north of Westgate-Greenland et al 1 Ruth, NE NE SW 13-18-1, a recent pool opener.

Peel Drilling Co., Wichita, has contract for a Rooks County, Kansas, wildcat, 1 mile northwest of Stockton pool. Test is Stockton, Charles Seaney et al 1 Reed, NW SW NW 23-7-17.

Hoover Drilling Co., Bakersfield, has work under way on a Richfield Oil Co. wildcat on Russell Ranch, Cuyama Valley, Santa Barbara County, California.

Carey Drilling Co., Denver, has been awarded drilling contract on a wildcat to be drilled by Bay Petroleum Co. and M. O. Lanam and C. E. Weir in C NW SE 9-44n-66w, Weston County, Wyoming. The well is the 1 Christensen-Davis.

Crew of Smith Horton Drilling Co., drilling for Mid-Continent Petroleum Corp., at Lindsay, Okla. The men are T. R. Jones; R. L. Brand; J. W. Godwin; Hyram Carroll; James Knight, driller

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San Joaquin Drilling Co. Los Angeles

Growth.—San Joaquin Drilling Co. was organized in 1943 as a copartnership by J. H. Harris, E. E. Whipple, and W. W. Cline, all of whom are still actively engaged in directing and operating the company. Prior to the formation of San Joaquin, Harris had been manager of operations for Owl Truck & Construction Co., Cline had been a vice president of Rocky Mountain Drilling Co., and Whipple had been drilling superintendent in charge of field operations for Rocky Mountain.

One of the youngest contracting firms on the West Coast, San Joaquin has also been one of the fastest growing. Starting with one rig in 1943, the company added two in 1944, one in 1945, one in 1946, and two in 1947. One of these, a steam rig, has since been retired. The company has over 80 wells to its credit at the present time, and in addition to the main office in Los Angeles, maintains district offices in Bakersfield, Calif., Lyman, Wyo., and Price, Utah.

Personnel.—Present officers include J. H. Harris and W. W. Cline, in charge of the Los Angeles office, and E. E. Whipple, in charge of the Bakersfield office. Steve Thomas is general drilling superintendent while drilling superintendents in charge of the various areas include: Jack Lee at Bakersfield, R. L. Brewer at Newhall, Orloe Davidson at Lawndale, W. E. Harrelson at Lyman, and Ray C. Anderson at Price.

Rigs.—San Joaquin now operates six of its own rigs. These include two National 75's, one National 100, two National 125's and one Wilson Titan. All of these rigs are operating in California fields with the exception of the 125's, one of which is in Wyoming and the other in Utah.

Sidelights.—San Joaquin specializes in deep drilling, all its rigs being capable of attaining depths of from 7,500 ft. "on down." In connection with their deep drilling, the company has established a depth record with Pacific-Western Oil Corp. 1 Gordon Creek Unit, Carbon County, Utah, which established the record for that state by going to a total depth of 12,000 ft. This particular well was completed as a carbon dioxide producer, but trouble developed forcing operators to back up and redrill. This redrilling is now progressing at 7,500 ft.

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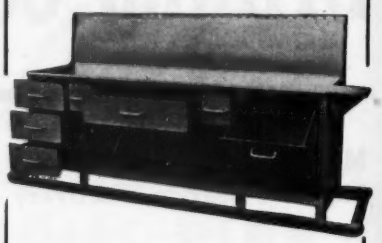

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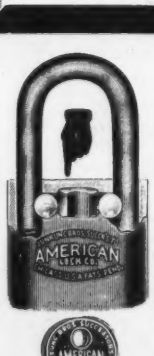

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PIPE LINES

T.G.T. Expects to Lay 30-In. Loops in 1948

Tennessee Gas Transmission Co. is making plans with the objective of constructing 150 miles of 30-in. loops on the main line so as to put them in operation next winter. These loops which have been approved by the Federal Power Commission will be laid between stations 5 and 11 to bring authorized capacity up another 60,000,000 cu. ft. to give a total throughput of 660,000,000 cu. ft.

In connection with the program the company will install additional compressor units with 10,000 hp. as follows: 2,000 hp. at Station 6; 4,800 hp. at Station 7; 1,000 hp. at Station 11; 1,000 hp. at Station 12; and 1,200 hp. at Station 13.

Over-all cost of the new facilities is estimated to be $16,275,000. In the company plans this 150 miles of 30-in. looping represents the first step in the construction of a third line to parallel the T.G.T. system. The 150 miles of 30-in. will be under construction while hearings are being held before FPC for the purpose of getting permission to build the remainder of this third line.

Stanolind to Increase Wyoming Line Capacity

Stanolind Pipe Line Co. will increase capacity of its Casper, Wyo.-Freeman, Mo., 709-mile crude-oil trunk line from the present throughput of 30,000 bbl. daily to 52,000 bbl. daily by reviving four abandoned stations and carrying out an extensive looping program for which the laying of 310 miles of pipe will start in Juy.

Specifications are now being prepared to be issued in June covering 255 miles of 16-in. loops, 25 miles of 12-in. loops and 30 miles of 10-in. loops. The 10-in. and 12-in. will consist of pipe reclaimed from this Wyoming trunk line which will be relaid in new locations along the same system. The existing Wyoming trunk line has looped sections, each having approximately 15 miles of 10-in. and 30 miles of 12-in.

It is anticipated that the work will be handled by four contracts for a total of four spreads. There will be about 16 sections, 15 miles in length, in this looping work.

The stations to be revived were shut down 17 years ago when pumping equipment and manifold piping was removed for installation on the Stanolind trunk line to Chicago. These four stations are all located near Northport, Keystone, Cozad, and Beshler; these are to be equipped with diesel reciprocating units to be moved from stations on the Drum-right-Whiting line, shut down following recent looping.

This trunk line from Wyoming had 17 stations when it was originally built in 1923 and 1924 by Sinclair interests in connection with the Teapot Dome project. The line was operated for moving Wyoming crude oil from several fields until 1929. From 1931 to 1936 the Wyoming

NEW TERMINAL OPENED

Starting operations of the new deep-water terminal of Sun Pipe Line Co. recently at Ingleside, near Corpus Christi, Tex., are, left to right, R. W. Pack, director of Sun Oil Co., Philadelphia; S. E. Ogle, Beaumont, vice president and chief engineer of Sun Pipe Line Co.; Hill Sanders, Beaumont, vice president and general manager; and W. C. Kinsolving, president of Sun's pipe-line subsidiary, Philadelphia. The new terminal has a storage capacity of about 1,000,000 bbl.

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trunk line was leased for gas transmission. In 1936 it was rehabiliated, and four stations were put in operation when it was converted back to crude-oil service. In 1940 a fifth station was put in operation; a sixth station was started in 1940 to facilitate handling Kansas oil. Two additional stations were operated in 1947.

When the two Nebraska stations are put in service this year in connection with the 1947 revamping program, there will be a total of 12 pump stations operating on Stanolind's Wyoming trunk line.

FPC Denies East Ohio Panhandle Intervention

A petition filed by East Ohio Gas Co. seeking leave to intervene in proceedings involving an application filed by Panhandle Eastern Pipe Line Co. for construction and operation of its proposed "Group C" facilities has been denied by the Federal Power Commission.

The commission's order stated that since the hearing was concluded December 11, 1947, and the decision of the presiding examiner has been filed, the petition, which was not filed until April 15, was not filed within the time prescribed.

Panhandle's proposed "Group C" facilities include additional compressor installations and pipe-line construction in the producing areas, substantial increases in compressor capacity on main transmission line, and construction of about 356 miles of 26-in. line as looping. Cost was estimated at $27,021,000.

Buckeye Prepares for Cygnet-Cleveland Line

Buckeye Pipe Line Co. has awarded contract to Sheehan Pipe Line Construction Co. for the laying of a 110-mile, 12-in. crude-oil line from Cygnet to Cleveland, Ohio. Work is to start June 1. The contractor's field office will be established at Fostoria, Ohio. Operations will be supervised by J. W. Brown, superintendent.

Contract has been let by Southern Natural Gas Co. to the Sheehan organization for the laying of 40 miles of 24-in. loops in Mississippi and Alabama.

Petroleum Lines Require Pipe for 17,219 Miles

Petroleum lines in the United States, including those for crude oil and products, will require new pipe for 17,219 miles of lines to be laid in the 18-month period between April 1, 1948, and October 1, 1949, according to a report of Bruce C. Clardy, president, Stanolind Pipe Line Co., prepared for the transpor-

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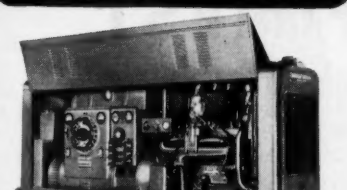

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tation committee of National Petroleum Council. These lines call for 1,495,283 tons of steel. This tonnage added to 13,239 tons for structural steel shapes and 108,579 tons for steel plates, plus a supplementary California estimate of 29,429 tons, gives a total figure of 1,646,523 tons of steel required in this 18-month period by petroleum pipe lines in the United States.

The lines to be built will require pipe in the following diameters and amounts: 16-in. in diameter and larger, 3,811 miles; 5⅝ to 14-in., inclusive, 9,343 miles, and 2 to 5-in., 4,065 miles.

Sinclair Converts 900 Miles to Product Service

Sinclair Refining Co., products pipe line, directed by W. W. Baker, vice president and general manager, is engaged in reconditioning approximately 955 miles of line formerly in crude oil service, which will be converted to the transportation of products in connection with the company's products system on which construction has been in progress this year from Houston to Shawnee, Okla.

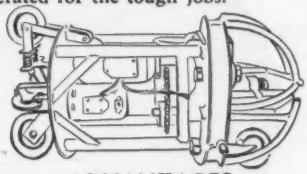
This reconditioning and conversion work is being carried on under the supervision of R. J. Tibbets, vice president and general manager, Sinclair Refining Co., pipe line department. Already work has been completed by seven crews working this year on 290 miles of 8-in. between Panova station, near Shawnee, Okla., and the Redel station, Kansas. Reconditioning of 270 miles of 8-in. between Redel and Wood River, Ill., is now being done by six crews; two of these are Sinclair company crews, two are crews of O. C. Whittaker Co. and two of Bill Morrison Construction Co. The Morrison organization has two crews working on 20 miles of 6-in. between Redel station and Kansas City, Mo.

Last week 10 crews were moving in for the reconditioning of 375 miles of 8-in. between Carrollton, Mo., and Griffith, Ind., near the northeastern end of the present crude-oil system. Half of these crews are reported to be those of the Sinclair organization while the other half are the crews of O. C. Whittaker Co. and Bill Morrison Construction Co.

White Eagle Lays Morel Pool Outlet

Socony-Vacuum Oil Co., Inc., White Eagle Division, is laying 42 miles of 6-in. crude-oil line from Morel pool in Graham County, Kans., to Adell pool in Sheridan County, Kans. The project has been contracted by Knupp Construction Co. for completion May 15.

The electric model shown below is a rugged, heavy-duty clamp, electrically operated for the tough jobs.



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Exploration and Drilling

New Mexico Pre-Permian Strike Draws Wide Interest

PRE-PERMIAN production has been extended about 50 miles north and west by Mid-Continent Petroleum Corp. 1-A Sawyer, SW SE 27-9s-36e, in northern Lea County, New Mexico, which looks good for about 4,000 bbl. per day of 42°-gravity oil through a ¾-in. choke, from what some call Ellenburger, and others call Siluro-Devonian. The nearest pre-Permian production is Devonian in the Jones Ranch pool, in the extreme northwest corner of Gaines County, Texas. Production is from 100 ft. of pay, through perforated pipe (5½-in. oil string, six shots per foot, from 12,115-12,215 ft.). Elevation is 4,038 ft.

After a 1,000-gal. acid mud treatment, the well flowed 137, 168 and 198 bbl., in the first 3 hours, and 492 bbl. in the next 3 hours, for a total 6-hour flow of 995 bbl. The last 20-minute flow was gaged at 60 bbl. Mid-Continent has an 800-acre block around the well, and other acreage in the vicinity. Magnolia Petroleum Co., Gulf Oil Corp., Skelly Oil Co., Devonian Oil Co., and Santa Fe Railroad are among those reported holding acreage that may be affected.

Reported tops are: San Andres —72 ft.; Glorietta —1,417 ft.; Clear Fork —2,162 ft.; Wichita —3,652 ft.; Abo shale —3,672 ft.; Wolfcamp —4,922 ft.; top Pennsylvanian —5,472 ft.; Strawn —6,532 ft.; Coral zone —6,642 ft.; Bend —6,772 ft.; chert —7,532 ft. (150 minutes to drill 1 ft.); Ellenburger —8,072 ft.; total depth —8,220 ft.

First drilling break was reported at —8,068 ft., or 4 ft. above top picked as Ellenburger. From —8,068 to —8,105 ft. (37 ft. interval) drilling time averaged 30 minutes per foot. From —8,105 to —8,143 ft. (38-ft. interval) drilling time was reported as 15 minutes per foot.

Two cores were taken of the pay zone. The first at —8,143 to —8,176 ft., with diamond-core bit, recovered 32 ft. of dolomite, medium crystalline, creamy to white, with traces of intercrystalline porosity. The entire core was highly fractured, and carried porosity ranging from fine to cavernous (holes up to 1 in.) and a lot of fracture plane porosity. Core had oil odor and stain.

The second core at —8,176 to —8,211 ft., recovered 33 ft. of medium crystalline, gray dolomite, with a little intercrystalline porosity carrying stain. The entire core was highly fractured and full of vug holes.

Three drill-stem tests in the Permian showed nothing; the same was true of a test just below the top of the chert, made at —7,537 to —7,571 ft. The fifth, at —8,061 to —8,143 ft., or beginning 11 ft. above reported Ellenburger top got the first good results. It showed a recovery of 2,880 ft. of a 3,000-ft. water blanket; 1,800 ft. of emulsified oil, gas, and water; 315 ft. of clean oil; 3,600 ft. of heavy oil-cut mud; and 1,260 ft. of salt water. A flowing pressure of 1,800 psi. was gaged, and a buildup pressure of 4,750 psi.

The sixth test, taking in only the next 33 ft. of pay, began to flow the 3,000-ft. water blanket to the surface in 3 hours, 45 minutes, cut with oil. After unloading into pits for 45 minutes, it was pulled and recovered 1,530 ft. of water blanket cut with oil, 9,950 ft. of clean oil, and 700 ft. of oil-cut drilling fluid. Flowing pressure was 2,500 psi., and 5-minute shutin pressure was 4,800 psi.

The seventh test, at 12,214-49 ft., or the 35 ft. just below the previous test, was open 2 hours and 10 minutes, recovering only the water blanket and 130 ft. of clean oil.

HIGHLIGHTS OF WEEK'S DEVELOPMENTS

ROCKY MOUNTAIN.—Ohio Oil Co. continues to drill in the Tensleep and find saturated sand at the 6 Kyle "A," discovery of a new pay in the Medicine Bow field, Carbon County, Wyoming. In the San Juan Basin of Colorado, Byrd-Frost et al have reported shows of oil and gas at the 1 Schmidt, an old well being cleaned out to test the Devonian.

NEW MEXICO.—Mid-Continent Petroleum Corp. 1-A Sawyer, 27-9s-36e, northern Lea County, flowed 995 bbl. of 42°-gravity oil in 6 hours on first test of perforations at 12,115-12,215 ft. The well, which may be good for approximately 4,000 bbl. per day, extends Pre-Permian production about 50 miles northwest from the nearest such pay in the Jones Ranch field of northwestern Gaines County, Texas. The test is the new record-holder for producing depth in the state. Total depth is 12,258 ft., only 1,740 ft. short of the drilling depth record for the state.

PERMIAN BASIN.—Coke County got its first Ellenburger production at Seaboard Oil Co. et al 1 Reed, 10 miles southwest of Bronte, which flowed 15 to 20 bbl. of 40°-gravity oil from 6,184-6,200 ft.

TEXAS GULF COAST.—Ohio Oil Co. is preparing to start core drilling operations in the Gulf of Mexico off Brazoria County, approximately 15 miles east of Freeport.

SOUTH LOUISIANA.—Magnolia Petroleum Co. has proven a new salt dome 10½ miles out in the Gulf of Mexico off Terrebonne Parish at the 1 Ship Shoal Lease 766, Block 72, 8 miles south of Coon Point production, and 21 miles southeast from Kerr-McGee Oil Industries' "Block 32" shallow salt dome and oil discovery. Total depth is 9,300 ft. in salt. The first test to reach salt in the big Paradis field, St. Charles Parish, is Texas Co.'s 20 Sunset Realty & Planting Co., with total depth at 13,760 ft. in salt. The well is testing through perforations at 12,367-78 ft.

CALIFORNIA.—Richfield Oil Corp. 78-24 M. & L., 24-31s-25e, appears to have added several hundred acres to the productive area of Paloma field, Kern County, when it flowed 960 bbl. of oil on primary tests.

CANADA.—A joint deep test of the Devonian in the Blackfoot area of the Lloydminster field has been planned by 15 companies.

OKLAHOMA

Sholem Alechem Field Gets Good Extension

MAGNOLIA PETROLEUM CO. has extended production in the Sholem Alechem field to the northwest by more than ½ mile. Magnolia's 1 Turner SW SE NE 34-1n-4w, Stephens County, ran a drill-stem test at 5,295-5,333 ft. and recovered 1,270 ft. of oil and 50 ft. of oil-cut mud. Operator cored and recovered 5 ft. of stained sand at 5,335-40 ft. and is coring below 5,355 ft. The completion of this well in the tested zone will extend Springer sand production by about ¾ mile.

Continental Oil Co. has added a new pay zone in the Camp pool at 1 Eason, SW NW NW 6-2s-3w, Carter County. A 30-minute drill-stem test at 4,252-4,337 ft. had considerable gas and flowed oil to the pits for 15 minutes. Recovery was 4,250 ft. of oil, 35° gravity. Operator is drilling deeper. Other wells in the pool produce from the Deese at about 6,500 ft.

Russell Maguire and R. H. Vise 1 Bradburn, SW SW NE 23-8n-4e, north of production in the Saint Louis field, Pottawatomie County, adds new Wilcox production to the area. Wilcox sand was topped at 4,415 ft. and the well swabbed 200 bbl. per day after a 24-qt. shot at 4,415-28 ft. Total depth is 4,430 ft. Well is about 4 miles from nearest Wilcox production.

Sinclair Prairie Oil Co. has added another producer at the southeast end of the South Ceres pool at 1 Steichen, NE NE NW 3-22n-1w, Noble County. The well which flowed 70 bbl. per hour through 1-in. choke from the Bartlesville is a continuation of the narrow straight line of producing wells between South Ceres and Southeast Ceres. Total depth is 4,537 ft.

Blackwell Oil & Gas Co. has the third producing well in the Southeast Newcastle pool as testing continues at 1 Thomas, C NE NW 31-9n-3w, near the Cleveland-McClain County line. Production is from the Bois d'Arc section of the Hunton through perforations at 8,961-91 ft. Well flowed 172 bbl. of oil and mud in 24 hours. Total depth is 9,058 ft.

Continental Oil Co. has still another gas-distillate show at 1 Dyer, C NW SW 31-2n-7w, on the east side of the South Marlow pool, Stephens County. A 12-minute drill-stem test at 8,635-75 ft. had gas in 8 minutes, and recovered 90 ft. of distillate and 900 ft. of mud, heavily cut with distillate. Crew is drilling ahead.

Gulf Coast Western Oil Co. and Oil Producers, Inc., 1 Ball, SE NW SW 28-12n-10e, is a prospective new Gilcrease producer for the Carey pool in Okfuskee County. The well started as a Hunton lime test but a drill-stem test of the Gilcrease at 2,937-68 ft. had gas in 3 minutes and oil in 31 minutes, flowing at the rate of 16 bbl. per hour. Operators have set casing at 2,932 ft.

OKLAHOMA SUCCESSFUL WILDCATS

Oklahoma County: Extension to Jones—Hall 1 Inez, NE SE SE 27-13n-1e, pumped 35 bbl. of 38°-gravity oil per day from conglomerate at 4,657-68 ft., TD.

Extension to Jones—L. C. Tharpe 1 Lovell, SE NW SE 29-13n-1e, flowed 147 bbl. of 36.5°-gravity oil per day from conglomerate at 4,883-98 ft., TD.

Amerada 1 Jones, C SW SE 19-13n-2w, flowed 63 bbl. of 52°-gravity distillate per day from unconformity sand at 6,145-47 ft., TD 6,178 ft.

Payne County: Westcott 1 Gibson, SW SW SE 10-17n-3e, flowed 75 bbl. of oil per day from Bartlesville at 3,950-58 ft., TD 4,060 ft.

OKLAHOMA WILDCAT FAILURES

Cotton County: Honolulu Oil Co. 1 Quo-in-Qoudle, SE NE SE 31-1s-12w, dry, Arbuckle 2,128 ft., TD.

Neeld-Hood 1 School Land, SW NE SE 16-3s-11w, dry, TD 1,652 ft., sand 1,486-1,504 ft. and 1,512-54 ft.

Creek County: Mid-Continent 1 Beets, NW NW NE 1-16n-10e, dry, TD 2,827 ft., Red Fork 1,798 ft., Inola 1,924 ft., Bartlesville 1,927 ft., Dutcher 2,398 ft., Mississippian 2,465 ft., Woodford 2,773 ft., Viola 2,800 ft., dense 2,813 ft., Wilcox 2,821 ft.

Garvin County: H. I. Grimes 1 Paul, NW NE SW 13-3n-1w, dry, TD 4,405 ft., Hogshooter 3,645 ft., Checkerboard 3,795 ft., basal Pennsylvanian and bromide 3,995 ft., McLish 4,30 ft., sand 4,155 ft.

Hughes County: Earl Moore 1 Chism, NE NE SE 30-5n-9e, dry, TD 1,024 ft., no tops reported.

Jackson County: Carlock 1 Cross, SW SW NE 18-2n-19w, dry, TD 2,705 ft., no tops reported.

F. L. Darnell 1 Neal, SW SW SW 8-1s-20w, dry, TD 5,006 ft., Canyon lime 3,723 ft. and 4,428-38 ft., basal Canyon lime 4,770 ft., granite wash 4,808-21 ft., 4,892-4,908 ft. and 4,997-5,005 ft.

Kay County: Atlantic 1 Hammon, NW NE SW 27-29n-3e, dry, TD 3,759 ft., Layton 2,430 ft., Simpson 3,664 ft., Arbuckle 3,732 ft.

Derby 1 Seltzer, NE NE NW 15-28n-3e, dry, TD 3,108 ft., no tops reported.

Lincoln County: Kemp 1 Wagoner, NW NW NW 4-16n-6e, dry, TD 3,767 ft., Hogshooter 1,895 ft., Layton 1,938 ft., Checkerboard 2,195 ft., conglomerate 2,225 ft., Oswego 2,790 ft., Prue 2,875 ft., Verdigris 2,950 ft., Skinner 3,025 ft., Inola 3,242 ft., Bartlesville 3,250 ft., Misener 3,445 ft., Woodford 3,603 ft., Sylvan 3,620 ft., Viola 3,663 ft., dense 3,609 ft., dolomite 3,703 ft., Wilcox 3,742 ft.

Mid-Continent 1 Smith, NE NE SW 34-16n-6e, dry, TD 3,996 ft., no tops reported.

Logan County: Woods Drilling 1 Fitzpatrick Est., SW SW NE 23-18n-2w, dry, TD 5,791 ft., Pawhuska 2,160 ft., Hogshooter 4,000 ft., Layton 4,065 ft., lower Layton 4,250-95 ft. with slight show of oil, Checkerboard 4,355 ft., conglomerate 4,510 ft., Oswego 4,912 ft., Verdigris 4,970 ft., Bartlesville 5,105 ft., Mississippian 5,162 ft., Woodford 5,412 ft., Misener 5,480 ft., Sylvan 5,500 ft., Viola 5,542 ft., dolomite 5,604 ft., first Wilcox 5,630 ft., second Wilcox 5,778 ft.

Marshall County: Edwards et al 1 Drummond, SW NW NW 26-5s-6e, dry, TD 1,221 ft., no tops reported.

Okfuskee County: Jergins Oil Co. 1 Walker, SW NW SW 6-13n-10e, dry, TD 3,661 ft., Senora 1,690 ft., Senora sand 1,700 ft., Inola 2,321 ft., Bartlesville 2,338 ft., Booch 2,675 ft., Gilcrease 2,790 ft., lower Gilcrease 2,825 ft., Union Valley-Cromwell 2,938 ft., Caney 3,040 ft., Mayes 3,210 ft., Woodford 3,405 ft., Hunton 3,428 ft., Sulvan 3,432 ft., Viola 3,512 ft., first Wilcox 3,556 ft., second Wilcox 3,630 ft.

Pawnee County: Mid-Continent 2 Maitlen, NE NE NE 17-23n-3e, dry, TD 3,583 ft., Layton 2,575 ft., Inola 3,436 ft., lime 3,492 ft., Bartlesville 3,503 ft.

Pontotoc County: Mid-Continent 1 Hamilton, NE SE NW 36-5n-8e, dry, TD 3,852 ft., sand 3,075 ft. with slight show of oil.

Pottawatomie County: MacMillan Petroleum 1 Loman, SE SW SW 1-10n-4e, dry, TD 4,058 ft.

Phillips Petroleum 1 Acock, SE SW SW 31-11n-5e, dry, TD 5,005 ft., second Wilcox 4,993 ft.

Tillman County: Miller 2 Williams, NW SE SW 13-1n-17w, dry, TD 630 ft., no tops reported.

MISSISSIPPI

LaGrange Field Gets Unusually Good Well

JACKSON.—One of the best wells in La Grange field, Adams County, has been completed at Gilster-Kemp-Vaughey-Hodge 1 Craig Estate—Mt. Vernon Plantation, 91-7n-2w. Drilled to a total depth of 6,224 ft., this well flowed on initial production gage 404 bbl. in 24 hours, through 11/64-in. choke. Tubing pressure 465 psi., casing pressure 490 psi. Gravity 42.6°.

In Mallalieu field, Lincoln County, Lion Oil Co. 1 O. C. Green, NW SW 20-8n-6e, southwest edge well, cored 30 ft. of saturated sand from 10,450-80 ft.

Nelson Exploration Co. 1 T. F. Green, NE NW 34-1n-12e, in West Heidelberg field, Jasper County, has been cored to total depth 5,138 ft., with shows of oil reported. Operators are running electric log.

In Yellow Creek field, Wayne County, Humble Oil & Refining Co. 1 Daws, SE SE 24-9n-8w, has been completed for initial production on pump of 204 bbl. per day. Total depth is 5,137 ft. and well was completed in only 12 days to establish a time record on completions.

The seven new locations reported included only one wildcat start in Jefferson

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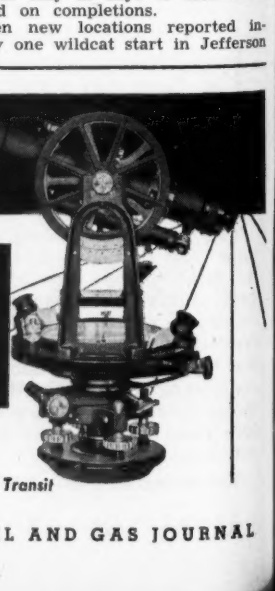

Illustrated, famous Type II Transit

County. The development wells are three in Mallalieu field, Lincoln County, and one each in Baxterville field, Lamar County; La Grange field, Adams County; and Soso field, Jones County. Two wildcat failures were reported, one each in Issaquena and Lincoln counties. Eight development wells were successful.

MISSISSIPPI WILDCAT FAILURES

Issaquena County: Carter Oil Co. 1 Fitler Planting Co., 22-10n-8w, dry, TD 1,325 ft. Tops: Wilcox 1,920 ft., Midway 3,081 ft., Gas Rock 3,512 ft., Lower Cretaceous 3,530 ft., Massive anhydrite 4,311 ft.

Lincoln County: Humble Oil & Refg. Co. 1 Willard Nations, 20-7n-9e, dry, TD 11,240 ft. Tops: Tuscaloosa 9,830 ft., Marine Tuscaloosa 10,420 ft., base Marine Tuscaloosa 10,710 ft., Massive 10,932 ft., Lower Cretaceous 11,120 ft.

FLORIDA WILDCAT FAILURE

Collier County: Humble Oil & Refg. Co. B-1 Gulf Coast Realty Co., 23-48s-28e, dry, TD 12,220 ft. in anhydrite.

KANSAS

Stafford County Gets Pool Opener

BASED on additional test during the week, Derby Oil Co. and Kiowa Drilling Co. appear to have a pool opener at 1 Tarrant, SW NE SW 15-25s-11w, about 5 miles south of the Zenith-Peace Creek pool in Stafford County. After an acid treatment, the well swabbed 8 bbl. per hour from the Viola topped at 3,920 ft. Total depth is 3,924 ft.

In Ellis County, Cities Service Oil Co. has completed 1 Hall "M," SE SE SE 11-12s-17w, for an initial production of 170 bbl. of 34.2°-gravity oil from the Lansing through perforations at 3,307-13, 61-67, and 3,490-3,512 ft. Total depth is 3,690 ft.

In Decatur County, Sohio Petroleum Co., Veeder Supply & Development Co., and Nate Appleman 1 Cora Sears, CWL NW SW 12-5s-27w, recovered 5 ft. of oil and 30 ft. of mud in a 1-hour drill-stem test of the Lansing-Kansas City at 3,661-73 ft. Formation was topped at 3,623 ft. Operator is drilling below 3,700 ft. and will test the Arbuckle. Well is located about 5 miles north of the Adell pool.

Casing has been set to test a show of oil in the Arbuckle at Westgate-Greenland Oil Co. 1 McClelland, NW NW NE 4-9s-19w, northwest of the Barry pool in Rooks County. Casing was set on top of the formation called at 3,442 ft. and total depth is 3,449 ft.

Crews are moving in tools for two rank wildcat tests in Kiowa and Osborne counties. In the southwest corner of Kiowa County, Rine Drilling Co. and Drillers Gas Co. 1 Lorimor, C SE NW 20-30s-20w, will test the area about 9 miles west of the Alford gas pool.

In Osborne County, Westgate-Greenland Oil Co. is moving in for a test at 1 McEwen, NW NW SE 27-8s-15w. Location is about 6 miles east of the Layton pool.

A total of 74 locations were recorded for the week. Russell County led with 11, followed by Butler with 10, and by Barton and Rice with 8 locations recorded for each.

KANSAS SUCCESSFUL WILDCATS

Butler County: Rex & Morris & Adair 2 Rice, SE SE NE 5-26s-4e, pumped 40 bbl. of 36°-gravity oil per day from Viola at 2,565-66 ft., TD.

Ellis County: Cities Service Oil Co. 1 Hall "M," SE SE SE 11-12s-17w, pumped 170 bbl. of 34.2°-gravity oil per day from Lansing at 3,307-13 ft., 3,361-67 ft., and 3,490-3,512 ft.; Heebner 3,285 ft., Dodge 3,306 ft., cherty conglomerate 3,600 ft., erosional Arbuckle 3,643 ft., Arbuckle 3,656 ft., TD 3,690 ft., PB 3,562 ft.

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Dickinson County: Hutchinson Oil & Gas Co. 1 Daetwiler, SW SW NW 33-16s-4e, pumped 50 bbl. of oil per day from Mississippian at 2,312-42 ft., TD.

Meade County: Helmerich & Payne and Texas Co. 1-A Adams, SW SW NE 24-34s-30w, gaged 5,200,000 cu. ft. of gas per day from Mississippian and Morrow sand at 5,892-5,912 ft., 5,920-54 ft., 5,984-6,000 ft., and 6,032-51 ft.; anhydrite 1,290 ft., Hollenberg 2,585 ft., Krider 2,690 ft., Herrington 2,628 ft., Winfield 2,746 ft., upper Ft. Riley 2,819 ft., Ft. Riley 2,880 ft., Heebner 4,450 ft., Douglas 4,490 ft., Lansing 4,602 ft., TD 6,509 ft., PB 6,065 ft.

Russell County: Wood River Oil & Refining Co. 1 Ney, SW SW NE 31-15s-12w, produced 26 bbl. of oil per day from Lansing at 3,240-50 ft., anhydrite 810 ft., Heebner 2,999 ft., Dodge 3,032 ft., conglomerate 3,353 ft., Arbuckle 3,360-63 ft., TD, PB 3,250 ft.

KANSAS WILDCAT FAILURES

Barber County: Skelly Oil Co. 1 Colborn, NW SE SE 4-33s-12w, dry, TD 4,895 ft., Lansing 3,810 ft., Mississippi lime 4,380 ft., Viola 4,697 ft., Simpson sand 4,785 ft.

Cowley County: Texas Co. 1 Wilson, SW NE SW 9-32s-3e, dry, TD 3,491 ft., Stalnaker 2,114 ft., Kansas City 2,526 ft., Layton 2,546 ft., Mississippian 3,095 ft., chat 3,308 ft., Arbuckle 3,390 ft.

Deep Rock Oil Co. 1 Fry, NW NW NE 27-33s-6e, dry, TD 2,957 ft., Mississippian 2,935 ft.

Graham County: Gore & Bennett & Roberts 1 Thurlow, NE NE NE 25-6s-22w, dry, TD 3,910 ft., Heebner 3,469 ft., Kansas City 3,496 ft., conglomerate 3,764 ft., basal sand 3,832 ft., granite was 3,885 ft., pre-Cambrian 3,906-10 ft., TD.

Harvey County: Bay Petroleum 1 Souder, SE SW SW 3-23s-1e, dry, TD 3,622 ft., Lansing 2,273 ft., conglomerate 2,950 ft., Mississippian 2,963 ft., Kinderhook 3,259 ft., Kinderhook sand 3,352 ft., Hunton 3,380 ft., Sylvan 3,453 ft., Viola 3,473 ft., Simpson dolomite 3,509 ft., Arbuckle 3,591-3,622 ft.

Marion County: Seibel & Murfin 1 McElheny, SW SW SW 26-21s-4e, dry, TD 2,486 ft., Mississippi lime 2,267 ft., Kinderhook 2,380 ft., Viola 2,484 ft.

Pawnee County: Sohio Oil Co. 1 Hennigh, SE SE NW 13-21s-16w, dry, TD 3,880 ft., anhydrite 958 ft., show of gas 1,980-86 ft., Heebner 3,335 ft., Lansing 3,446 ft., conglomerate 3,730 ft., Simpson shale 3,781 ft., Arbuckle 3,822 ft.

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(Fig. D373)
SPANG HOLLOW REAMER
(Fig. D375)

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MICHIGAN

Drilling Activity To Pick Up

SAGINAW.—Michigan oil and gas operators prepared 26 new locations while completing an even dozen wells in the state in the past week. Completions activity centered in Allegan County, where nine operations were finished and five of the week's six producers were recorded. Of the six dry holes, five were wildcats. The sixth wildcat, in Hopkins Township, Allegan County, flowed initially after acidizing at 350-bbl. a day rate, but output dwindled rapidly. Best of the other producers was a 60-bbl. well in Allegan's Salem field.

Permits for new wells were issued for locations in 10 counties, 7 going to Michigan Storage Co. for facility wells to be sunk in Summerfield Township, Clare County. The other locations are for oil wells, three in Bay County, two in Kent, five in Allegan, one in Roscommon, one in Montcalm, two in Osceola, one in Van Buren, one in Mecosta and three in Tuscola.

Several operators planned deepening operations. Of the seven reported, the featured one is Sun Oil Co. 1 Bradley in Garfield Township, Newaygo County, the intention being to test the St. Peter formation by drilling to perhaps 7,000 ft.

The State Conservation Department was to meet this week to set a date for auction on oil and gas lease rights on about 25,000 acres of state-owned land in a dozen northern Michigan counties and was to consider revision of its present checkerboard leasing system. The theory of the policy was that the system would benefit the state by enhancing the value of lands held adjacent to any acreage which might be proven by the "spot" lessors.

Michigan Oil and Gas Association figures showed state production averaging 43,000 bbl. daily, 655 bbl. less than for the previous month. The number of producing wells declined from 3,523 to 3,515.

MICHIGAN SUCCESSFUL WILDCAT

Allegan County, Hopkins Township: Eric P. Schelling 1 Barnhardt, SW NE NE 30-3n-12w, flowed at 350 bbl. daily rate after acidizing, Traverse; TD 1,539 ft.

MICHIGAN WILDCAT FAILURES

Allegan County, Fillmore Township: Max Spidel 1 Schrotenboer, SW NE SW 33-4n-15w, dry in Traverse, TD 1,476 ft.

Lee Township: Norman L. Stevens 1 Wood ,SE NW NW 31-1n-15w, dry, Traverse, TD 1,190 ft.

Salem Township: Ford Henry 3 Funk, SE NE SW 13-4n-13w, dry, Traverse, TD 1,680 ft.

Muskegon County, Ravenna Township: J. W. Lang Co. 1 Taylor, NE NW NE 3-9n-14w, dry in Alpena, TD 1,935 ft.

Newaygo County, Denver Township: E. L. Bourret 1 Gilbert, NE SW NW 10-14n-14w, dry, TD 2,742 ft.

PERMIAN BASIN

Coke County Gets First Ellenburger Production

MIDLAND.—First Ellenburger production for Coke County was reported at Seaboard Oil Co. of Delaware and Southern Minerals Corp. 1 M. G. Reed, NE SW Section 1, HE&WT Survey, 10 miles southwest of Bronte and 10½ miles southeast of Robert Lee. According to the report, the wildcat flowed an estimated 15 to 20 bbl. of 47°-gravity oil an hour on a drill-stem test at 6,184-6,200 ft. Available storage was filled in 17 minutes and the well was shut in. Earlier, cores from 6,189-94½ ft. recovered Ellenburger dolomite, and a 1-hour drill-stem test recovered 260 ft. of drilling mud, the bottom 150 ft. being heavily cut with oil and gas. Top of the Ellenburger was placed at 6,182 ft., on an elevation of 1,914 ft. Operators were undecided about drilling deeper or attempting completion from the indicated 16 ft. of pay.

McAlester Fuel Co. has identified the pay section in its 1 M. M. Fisher, Section 4, Block A-36, PSL Survey, Andrews County, as Devonian, and not the Ellenburger as previously reported. On an elevation of 3,136 ft., the well had top of the Devonian at 11,008 ft. First drill-stem test was run from 11,015-55 ft., with the tool open 2 hours. When drill pipe was pulled it recovered some 700 ft. of heavy, black oil, testing 22.5°. A second test from 11,055-11,105 ft., open 3 hours, recovered 1,500 ft. water cushion, heavily cut with oil and gas, and 300 ft. of oil and gas-cut mud. Operators said the first 600 ft. of water cushion was about 50 per cent oil, of somewhat higher gravity than the oil recovered previously. Plans were to drill to around 11,205 ft. before testing again. McAlester was to try for completion in the Devonian without drilling to the Ellenburger. The 1 Fisher was an old test deepened from 7,365 ft. Location is 1 mile north of the east side of Shafter Lake, and some 3½ miles northeast of Wolfcamp and Devonian production in Shafter Lake field.

In Schleicher County, Phillips Petroleum Co. 1 Weddell, plugged-back Strawn test 17 miles northeast of Eldorado, swabbed all drilling fluid from the hole and acidized with 500 gal. between 5,630-5,700 ft. After swabbing 10 bbl. of load water, the well kicked off and started flowing. It flowed some 15 bbl. of water, oil, and acid residue into pits before being turned into tanks. In the first hour it flowed 7.8 bbl. of oil, cutting less than 1 per cent acid water, through 18/64-in. choke. On a 6-hour flowing test, through ½-in. choke, it made the following hourly flows: 2.25, 1.12, 2.8, 1.69, and 2.05. There was some acid water but operators said there was no formation water. It was to be retreated.

WEST TEXAS (DISTRICTS 8 & 7-C) SUCCESSFUL WILDCAT

Hale County: General American Oil Co. 1 A. F. Byrd, SE SE Sec. 17, Blk. K, TTRR Sur., 2 mi. NE Petersburg, pumped 118 bbl. 40°-gravity oil a day, Canyon (Pennsylvanian) limestone 5,820 ft., perforated casing 5,916-25 ft., TD 6,760 ft., PB 5,902 ft., old total depth 6,760 ft.

WEST TEXAS (DISTRICTS 8 & 7-C) WILDCAT FAILURES

Cochran County: Ralph Lowe 1 G. G. Wright, Lab. 25, Lge. 95, Mills CSL, 9 mi. SW Whiteface, dry, TD 5,035 ft., San Andres 4,100 ft., elev. 3,766 ft.

Reagan County: Moore Exploration Co. 1-A University, Sec. 13, Blk. 12, University Lands, 7 mi. S Big Lake, dry, TD 2,516 ft., pumped ½ bbl. oil a day for 8 days from sand at 2,405-68 ft.

SOUTHEASTERN NEW MEXICO

HOBBS.—Mid-Continent Petroleum Corp. 1-A Sawyer, SW SE 27-9s-36e, Lea County

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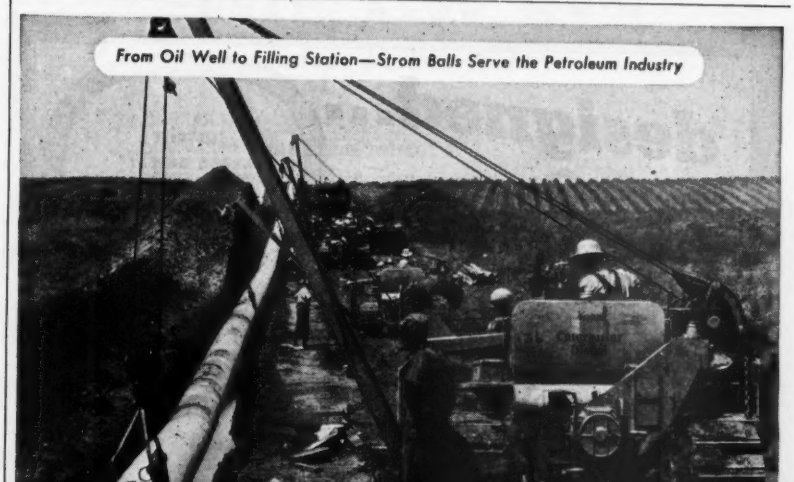

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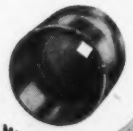

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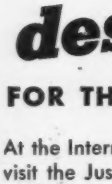

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Ellenburger wildcat, on test, flowed 995 bbl. of 42°-gravity oil in 6 hours; 137, 168, and 198 bbl. respectively in the first 3 hours; and 60 bbl. in last 20 minutes of the 6-hour test. Production is through 600 perforations between 12,115-12,215 ft., casing set at 12,255 ft., and drilled out to 12,240 ft. Total depth is 12,258 ft.

Amerada Petroleum Corp. 2 Record, SE NE 25-19s-35e, was drilling in shale at 13,323 ft. Corrected top on the Mississippi was 12,225 ft., and Woodford shale 13,213 ft. Magnolia Petroleum Co. 1-A Santa Fe, SE SE 30-9s-36e, had stuck drill pipe at 5,002 ft., total depth. It topped the San Andres at 4,195 ft. Skelly Oil Co. 7 Sims, NE SW 3-23s-37e, was drilling in dolomite at 5,518 ft. Top on the Glorietta was 5,120 ft. Gulf Oil Corp. 1 Saltmount, SE SE 21-23s-37e, was drilling below 8,551 ft., still in the Devonian.

In Eddy County, DeKalb Agricultural Association 1 Bogle, NE SE 15-16s-26e, was drilling at 2,897 ft. Glorietta top was 2,130 ft. Southern Union Producing Co. 1 Elliott, SW SW 24-18s-23e, was a failure, with total depth in the pre-Cambrian at 9,887½ ft.

Chaves County wildcats were: W. H. Black Drilling Co. 1 Shildneck, NW SW 24-16s-20e, drilling below 4,375 ft. Richfield Oil Corp. 3-2 J. P. White, NW SW 6-12s-29e, had total depth at 2,195 ft. in lime and was running 2-in. tubing to test. Richfield 2 Comanche-Unit, SE NE 24-11s-26e, was drilling at 3,290 ft. Barnsdall Oil Co. 1-A State, new operation in NE NE 23-8s-32e, was drilling ahead.

EASTERN TEXAS

Blackfoot Field Has Apparent Producer

DALLAS.—In the Blackfoot field of Anderson County, Stanolind Oil & Gas Co. 1 B. F. Weakley, Block 14, I. P. Rinehart Survey, A-661, had good prospects for production. A drilling break in the upper Rodessa, at 8,975-8,981 ft., cut 5 minutes per foot. Operators drill-stem tested the interval, with packer at 8,955 ft., using ¼-in. top and bottom chokes and 2,000 ft. of water cushion. The tool was open 27 minutes, and the well produced a good blow at the surface throughout. In bringing the tool out of the hole, the well started to unload after 5,162 ft. of pipe was out, blowing oil, gas and water cushion into the derrick. It continued to head at various intervals. Recovery was the water cushion, 1,800 ft. of 40°-gravity oil and 200 ft. of drilling mud cut with oil and gas. There was no salt water. Bottom-hole shut-in pressure rose to 3,925 psi. in 10 minutes.

A later test, in the lower Rodessa, from 9,045-56 ft., total depth, recovered the water cushion heavily cut with gas and having a faint odor of distillate, plus 270 ft. of muddy salt water. Operators planned to core ahead.

In Henderson County, W. B. Hinton 1 J. M. Criswell estate, C. M. Walters Survey, was drilling below 6,961 ft. in shale and lime. J. P. Owens et al 1 Mrs. Willie F. DeArmon, Travis Peak test in the Jose S. Cordova Survey, was drilling in shale and lime at 5,045 ft.

T. D. Humphries 1 E. B. Tuggle, Paluxy test 4 miles east of Kemp, in Kaufman County, recovered drilling mud with no shows on a 40-minute drill-stem test at 5,390-97 ft. Operators drilled ahead and reported drilling breaks at 5,579-83 ft., cutting 4 to 5 minutes per foot, and 5,608-12 ft., cutting 3½ minutes per foot. Cuttings from both intervals showed taste and stains and slight odor. Drilling stopped at 5,625 ft. for another drill-stem test.

Hiawatha Oil & Gas Co. 1 W. E. Johnson, southwest outpost to the San Augustine field, continued drilling below 8,010 ft. in hard lime and shale. Cores at 7,638-42 ft. had good odor and oil bleeding from

fracture. At 7,690-7,703 ft., the recovery was 13 ft., being 2 ft. of hard lime, with oil bleeding on vertical fracture, and slightly salty taste, and 11 ft. of gray, shaly lime.

EAST TEXAS (DISTRICTS 5 & 6) WILDCAT FAILURE

Cherokee County: R. J. Caraway 1 Aaron Sessions, J. M. Musquez Grant, 10 mi. E Rusk, dry, TD 4,502 ft., Woodbine 4,442 ft., elev. 280 ft., no shows.

N. CENTRAL TEXAS

Offset to Discovery Gets Upper Caddo Pay

WICHITA FALLS.—J. H. Snowden et al 2 Gober, Section 3, Day Land & Cattle Co. Survey, was completed in the upper Caddo to become the operators' second well 5 miles southeast of Throckmorton, in Throckmorton County. On a 4-hour test, it flowed 274 bbl. of 42.4°-gravity oil throgh ½-in. choke from perforations at 4,149-52 ft. Gas-oil ratio was 516 cu. ft. Top of the Caddo was 4,151 ft. The 2 Gober is a north offset to the 1 Gober, which hay pay in the lower Caddo around 4,440 ft.

In northeast Throckmorton County, Panhandle Producing & Refining Co. et al 1 F. T. Beach, 5½ miles northeast of Throckmorton, in Block 3,054, TE&L Survey, was drilling below 600 ft. It reported top of Caddo saturated limestone at 4,295 ft., and a good show of oil between 4,408-26 ft.

Second well for the Saguaro Mississippi lime field of southwestern Throckmorton County appeared certain at Saguaro Drilling Co. 1-B Herron, Block 1,607, TE&L Survey, and east offset to the discovery. Top of the Mississippi was logged at 4,639 ft. A drill-stem test between 4,639-49 ft., total depth, open 33 minutes, brought gas to the surface in 13 minutes, drilling mud in 25 minutes and oil in 30 minutes. Total recovery was 1,150 ft. of clean oil and 120 ft. of oily mud. Bottom-hole pressure was 2,130 psi. Operators were to set casing to 4,637 ft. for completion tests. The 1-B Herron also reported commercial production possibilities in the Strawn and Caddo sections. Location is 2 miles southwest of the Record Mississippi field.

Two miles southeast of the Saguaro wells, Fred M. Manning, Inc., 1 Brown & Herron was testing the lower Caddo, and showing more water. A 1-hour drill-stem test from 4,399-4,408 ft. showed gas at the surface in 21 minutes, and oil-cut water in 56 minutes. Recovery was 2,880 ft. of oily salt water, and 1,350 ft. of salt water with no show of oil. A second test from 4,430-39 ft. recovered 75 ft. of gas-cut salt water, and 630 ft. of salt water. Operators were to drill ahead.

In Shackelford County, 2 miles south of Albany, M. J. Mitchell 1 T. C. Partley, Section 17, BAL Survey, was showing for a producer in the Marble Falls section of the lower Pennsylvanian, and was reported to be the second well in the county to produce from that horizon. A drill-stem test from 4,320-36 ft. brought gas to the surface in 8 minutes, and oil in 1 hour and 9 minutes. It was allowed to flow into pits for 2½ hours, gaging from 8 to 10 bbl. of oil an hour. No water was reported with the oil. Operators were running casing for completion attempt. Companies holding offset acreage are Humble Oil & Refining Co., Jones & Stasney, R. H. Roark, and Roeser & Pendleton, Inc.

NORTH CENTRAL TEXAS (DISTRICTS 9 & 7-B) SUCCESSFUL WILDCATS

Archer County: Akin & Dimmock 1 Mrs. J. H. Turbeville, Blk. 125, John Richards Sur., A-268, pumped 21 bbl. 41°-gravity oil a day, sand 3,866-74 ft., TD.

Stephens County: Fred M. Manning 1-B W. T. Moore, Sec. 2,256, TE&L Sur., 10 mi. SW Breckenridge, flowed 228 bbl. 43.2°-gravity oil a day, 14/64-in. choke, perforations 3,325-30 ft. in Caddo topped 3,274 ft., casing pressure 1,000 psi., tubing 600 psi., GOR 1,100 cu. ft., elev. 1,255 ft.

Throckmorton County: Deep Rock Oil Co. et al 1 Ella Andrews, Sec. 284, BBB&C Sur., 2 mi. S Throckmorton, pumped 28 bbl. oil a day, Marble Falls 4,767-91 ft., plugged-back total depth, TD 4,850 ft.

Young County: Howell & Howell 1 Mellie Prideaux, A. McMillen Sur., A-198, 7 mi. NW Markley, pumped 146.8 bbl. 42.2°-gravity oil a day, sand 2,974-85 ft., TD.

NORTH CENTRAL TEXAS (DISTRICTS 9 & 7-B) WILDCAT FAILURES

Archer County: Akin & Dimock 1 C. L. Abercrombie, J. W. Harris Sur., 1½ mi. S Archer City, dry, TD 4,915 ft., Caddo 4,880 ft.

Perry Browning 1 Minnie Decker, Sec. 2, SPRR Sur., A-1,187, 2 mi. W Huff Station, dry, TD 5,775 ft., Caddo 5,205 ft., had salt water, Ellenburger 5,608-40 ft., had estimated 10-15 bbl. oil a day.

Fain & McGaha 1 Chas. Fredrick, Blk. 3, Clark & Plumb Sur., 2½ mi. S Scotland, dry, TD 4,020 ft.

W. B. Hamilton 1 C. H. Thurman, J. W. Harris Subd., Blk. 67, 4 mi. W Archer City, dry, TD 1,542 ft., Gunsight lime 1,442 ft., sand 1,466-69 ft.

J. S. Juliussen 1 Chas. Abercrombie, Blk 40, J. W. Harris Subd., 9½ mi. SW Archer City, dry, TD 1,461 ft.

C. W. & Wm. L. Snoddy 1 J. F. O'Donohoe, Blk. 111, T. Bell Sur., A-31, 7 mi. SE Mankins, dry, TD 1,585 ft., sand with slight show oil 1,299-1,307 ft., salt water 1,501 ft.

Brown County: Rogers Hart et al 1 M. H. Hill, A. C. Lovelace Sur., 2 mi. SE

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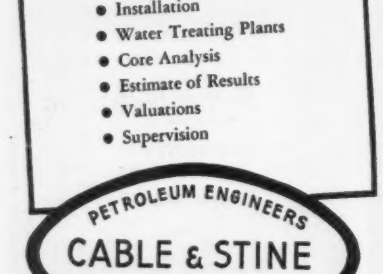

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Bangs, dry, TD 900 ft., show oil in sand 857 ft.

Callahan County: Clakmen Oil Co. of Texas 1 Mrs. E. C. Harwell, J. Smith Sur., 1 mi. S Putnam, dry, TD 730 ft. in shale.

R. F. Hart et al 1 G. W. Shultz, Sec. 62, LAL Sur., 7 mi. N Putnam, dry, TD 755 ft.

Cooke County: Bert Broday 1 Nell Fischer, Sec. 13, SPRR Sur., A-979, 7½ mi. NW Muenster, dry, TD 4,151 ft., sand with oil show 2,449-50 ft.

Paul B. Scott 1 Laura May Munn, A. Van Slyke Sur., 1½ mi. S. Lindsay, dry, TD 1,900 ft., Ellenburger 1,900 ft.

J. R. & Adam Seitz 1 R. A. Ritchie, Alexander Horton Sur., 14 mi. NE Gainesville, dry, TD 5,882 ft., Simpson 5,360 ft., Creek sand 5,462-67 ft., with oil show, Ellenburger 5,750 ft.

Comanche County: W. L. Douthit 1 R. M. Boyd, James Hudson Sur., 2 mi. E Downing, dry, TD 2,873 ft. in shale.

Hardeman County: R. H. Alexander et al 2 W. F. Williams, Sec. 304, HW&NW Sur., 12 mi. N Goodlett, dry, TD 905 ft. in shale.

Jones County: Sojourner Drilling Co. 1 Hazel Young, Sec. 7, Blk. 2, T&NO Sur., 4 mi. SE Anson, dry, TD 3,338 ft., show oil and gas in Reef limestone, 3,290 ft.

Montague County: Continental Oil Co. 1 F. M. Ayres, Sec. 21, Limestone CSL, 1 mi. W Stoneburg, dry, TD 6,713 ft., Caddo 6,045 ft., conglomerate 6,125 ft., perf. 6,130-40 ft., swabbed small amount of oil.

Russell Maguire 1-A Trinity - Fenoglio, N. S. Ussery Sur., 2 mi. SW Montague, dry, TD 6,505 ft., Caddo 5,739 ft., conglomerate 6,350-57 ft.

Los Nietos Co. 1 R. A. Smith, Blk. 96, Kaufman CSL, 4 mi. SE Spanish Fort, dry, TD 4,170 ft. in dolomite.

Wichita County: Fain & McGaha 1 Powell & Vanderwoude, Blk. 239, Waggoner CSL, 6½ mi. N Electra, dry, TD 4,050 ft.

Shackelford County: Dillard & Baker 1 G. R. Davis, Sec. 55, Blk. 13, T&P Sur., 15 mt. NE Abilene, dry, TD 1,800 ft.

John J. Ivey 1 H. R. Eubank, Sec. 20, University Lands, 3 mi. NW Moran, dry, TD 4,309 ft., Caddo 3,785 ft., Marble Falls 3,840 ft., Mississippi 4,260 ft., Ellenburger 4,275 ft.

Taylor County: Carl Hovgard et al 1 G. W. Hughes, Sec. 1, Blk. 18, T&P Sur., 1 mi. SE Blari, dry, TD 4,826 ft., sandy conglomerate 3,175 ft., Reef lime 3,660 ft.

CANADIAN FIELDS

Leduc Drilling Campaign Continnues at High Rate

CHATHAM.—Six completions, all by Imperial Oil, with aggregate initial output of 805 bbl. daily, are reported from the Leduc field. Extending the field to the south, Imperial 9, LSD 16, 3-50-26w4, at 5,466 ft. has 126 bbl. daily through 12/64-in. choke. The other completions are in the north and central portions of the field.

Imperial has six new locations: No. 64, LSD 12, 15-50-26w4; No. 65, LSD 3, 16-50-26w4; No. 66, LSD 6, 34-50-26w4; No. 67, LSD 16, 20-50-26w4; No. 68, LSD 15, 9-50-26w4, and LSD 69, LSD 15, 21-50-26w4.

In the Woodbend area, to the northwest of the field, Imperial-Woodbend 2, LSD 4, 15-51-26w4, is deepening below 4,762 ft. after getting salt water with gas in two drill-stem tests in the D-1 zone. Imperial-Woodbend 3, LSD 9, 16-51-26w4, in drill-stem test of the D-1 zone at 4,555-4,669 ft. got maximum gas flow of 1,256,000 cu. ft. with 1,320 ft. rise of salt water; and is deepening.

Northeast of the Woodbend area, and close to Edmonton, Consolidated - Homestead 2, LSD 9, 31-51-25w4, is logging closely with Imperial-Woodbend 1 - discovery well with the Viking sands at 3,375 ft. and

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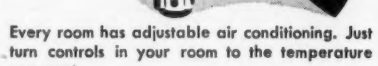

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the Lower Cretaceous expected around 4,175 ft. D-1 zone is looked for around 4,400 ft.

Tofield.—Well to the east of the Leduc field, Imperial-Tofield 1, LSD 9, 18-50-18w4, testing for a potential extension of the Devonian limestone production in that direction, has been abandoned at 5,000 ft.

Lloydminster.—A deep test of the Lloydminster field, jointly sponsored by some 15 syndicates and companies, will be started this summer in the Blackfoot area, northwest of the original field. Devonian limestone is found at approximately 2,200 ft. and it is planned to drill about 1,000 ft. into the formation.

The Leduc field is affording a new market for Lloydminster heavy crude, about 3,300 bbl. being trucked in March for use as drilling fuel, at a well-head price of $1.13 a barrel.

Pincher Creek.—In the Pincher Creek field, in the southern Alberta foothills, Canadian Gulf-Pincher Creek 1, LSD 15, 24-3-29w4, has cleared the hole of metal and is deepening from 11,927 ft. to test the second porous horizon of the Madison limestone.

SOUTH LOUISIANA

Paradis Test Reaches Salt Below 12,000 Ft.

NEW ORLEANS.—The Texas Co. 20 Sunset Realty & Planting Co., 39-14s-20e, is the first test to reach salt in the big Paradis field, St. Charles Parish. Total depth is at 13,760 ft. in salt and 5½-in. casing has been set at 12,500 ft., and perforations at 12,367-378 ft. and a test is being made.

Magnolia Petroleum Co. has opened a new sand in the Hurricane Creek field, Beauregard Parish, with completion of 1 Doornbos-McPherson, ½ mile south of the 1 McPherson. The new well gaged 69 bbl. of 48°-gravity oil daily through a 7/64-in. choke through perforations at 8,234-42 ft. Gas-oil ratio 987.

A new salt dome 10½ miles out in the Gulf of Mexico off Terrebonne Parish shore has been proven by Magnolia Petroleum Co. 1 Ship Shoal Lease 766, Block 72. 8 miles south of Coon Point production. It was drilled to a total depth of 9,300 ft. and into the salt. Protection pipe has been cemented in the hole to a depth of 8,200 ft. Original projected depth is 13,500 ft. This is 21 miles southeasterly parallel to the shore line from Kerr-McGee Oil Industries "Block 32" shallow salt dome and oil discovery.

Magnolia 3-C Lutcher, 24-14s-11w, has opened oil production from the 11,400 ft. level in the East Mud Lake gas and condensate producing area of Cameron Parish. Total depth is 11,913 ft. On a test through perforations at 11,748-764 ft. recorded slight show of gas. Flowed 129 bbl. of 36.4°-gravity oil per day through 10/64-in. choke through perforations at 11,410-416 ft. Flowing pressure on tubing was 700 psi. and gas ratio 700.

Texas Co. 4 State-Barataria, Lease 346, deep test in Barataria Bay, 20s-25e, continues to test. Original test at 16,022-059 ft. failed to make a recovery and these perforations were squeezed off and plugged back and perforated at 15,869 ft. for new test.

The 21 new locations reported this week included 4 wildcat starts, 1 each in Acadia, Jefferson, Plaquemines and Vermilion parishes. Three wildcat failures were completed, one each in Beauregard, Cameron and Iberville parishes.

SOUTH LOUISIANA WILDCAT FAILURES

Beauregard Parish: Magnolia Pet. Co. 1-B Long Bell, Bannister area, 21-4s-9w, 9½ mi. SE of Neale field, 2 mi. W of Bannister townsite, dry, TD 8,018 ft.

Cameron Parish: Shell & Humble 1 K. B.

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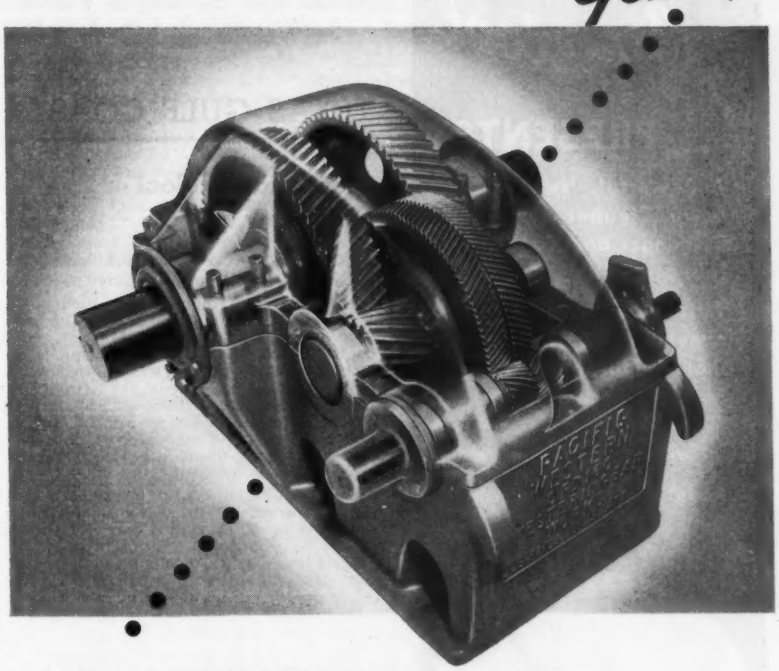

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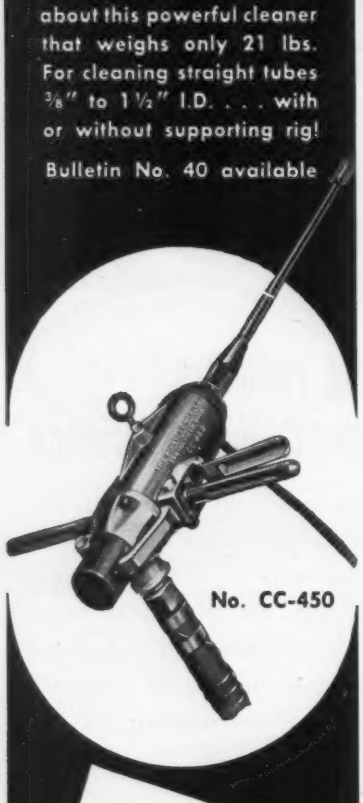
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Hauszen, Chalkely area, 5-12s-6w, 1 mi. NW of production, dry, TD 10,619 ft.

Iberville Parish: Gulf Refg. Co. 1 Albritton & Grace, 113-7s-9e, 3 mi. W of Rosedale field production, dry, TD 10,528 ft.

TEXAS GULF COAST

S. Chenango Pool Gets New Pay

HOUSTON.—A new sand for South Chenango in Brazoria County has been opened by Pan American Production Co. 1 Louis Nawrocki Community. The new sand is perforated from 8,954-65 ft. Total depth is 9,240 ft. and 5½-in. casing is cemented at 9,020 ft. The well flowed a potential gage of 127 bbl. of 31.6°-gravity oil per day through a 14/64-in. choke with 200 psi. flowing pressure on the tubing. Gas ratio 948, and no water in the flow. The discovery of the field produces through perforations at 9,200-06½ ft.

Jack W. Frazier 1 Lillie O. Hurlock, potential wildcat oil discovery in the Iowa Colony area of Brazoria County, is trying to get a production flow test. It flowed oil and wash water through a ½-in. choke with 150 psi. pressure on tubing and 750 psi. pressure on casing from open hole at 9,095-9,116 ft. Total depth is 9,116 ft. and 5½-in. pipe is at 9,095 ft.

Sam Pattillo is testing a new sand in the Cockfield formation in the West Conroe producing area of Montgomery County. The 1 R. L. Calfee, in the James McDillon Survey, Block 9, ½ mile northeast of production, encountered encouraging shows in the 4,600-ft. level and 5½-in. casing was cemented at 4,613 ft. for the tests. Total depth 4,713 ft. If successful, this well will open a new sand for the area.

There were 46 new locations reported for Districts 2 and 3 of which 14 are wildcat starts, 3 in Wharton, 2 in Matagorda, and 1 each in Brazoria, Calhoun, Chambers, Fort Bend, Gonzales, Hardin, Lee and Orange counties. One successful exploratory test opened new oil pay in Refugio-Fox field of Refugio County while 6 wildcats were completed dry, 2 each in Bee and Wilson counties, and 1 each in Calhoun and Liberty counties.

TEXAS GULF COAST (DISTRICTS 2 & 3) SUCCESSFUL WILDCATS

Refugio County: New oil pay Refugio-Fox—Seaboard Oil Co. of Dela. A-1 Jamie Hynes, in Refugio Town tract, top pay 6,397 ft., TD 7,020 ft., perf. 6,397-6,407 ft., IP: 138 bbl. oil per day through a ½-in. choke, GOR 571, TP 910 psi., CP 990 psi., gravity 37.3°, no water.

TEXAS GULF COAST WILDCAT FAILURES

Bee County: Simmons Oil Co. and Moore Dev. Co. 1 H. Hatch, in C. W. Hahl Subd. of Chittim-Miller Ranch, J. M. Uranga Grant, dry, TD 5,025 ft.

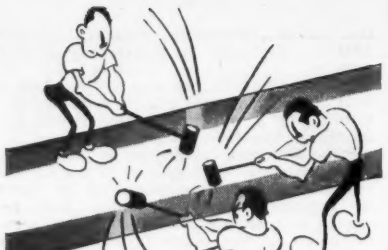
Smith-Story-Wood Corp. 1 Thomas J. Robertson, in Thos. J. Robertson tract, James Stone Survey, 6 mi. W of Beeville, dry, TD 4,603 ft.

Calhoun County: Quintana Pet. Corp. 1 Chas. A. Crober, in Manuel Lopez Grant, 4,300 ft. SW of production at Sheriff field, dry, TD 9,099 ft.

Liberty County: Claud B. Hammill & Wm. A. Smith 1 Boyd Sewell et al, in Edward Tanner League, 7 mi. N of Hardin townsite, dry, TD 8,266 ft.

Wilson County: Gulf Coast Drlg. Co. 1-A F. C. Spruce, in Juan J. Berban Sur. 10, 6 mi. SW of Stockdale, dry, TD 2,147 ft.

Henshaw Bros. et al 1 Julius Ewing, in Maria Calvillo Sur. 22, 3¼ mi. SW of Floresville, dry, TD 6,486 ft.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CALIFORNIA

Paloma Gets ½-Mile NW Oil Extension

LOS ANGELES.—Richfield Oil Corp. 78-24 M. & L., 24-31s-25e, has been credited with an important outpost discovery. Located slightly more than ½ mile northwest of nearest production in Paloma field of Kern County, the well flowed oil at the rate of 960 bbl. per day during primary tests made last week. Oil was 39.8° gravity and was accompanied by an estimated 3,000,000 cu. ft. of gas daily. Water cut was 6 per cent. The formation test was made of two zones through perforations at 11,000-10, ft., and 11,070-11,120 ft. with packer set at 10,912 ft. The tester was open for 5 hours and during this time the well flowed steadily for 3¼ hours. Total depth of the well is 11,323 ft.

Successful completion of the 78-24 M. & L. will add several hundred acres to the productive area of Paloma field. Most of this acreage is controlled by Richfield, which holds the majority of the acreage between the well and the former productive area and all the acreage in Section 25-31s-25e, directly south of the discovery.

Reports last week indicated that Richfield also may have a shallow-zone discovery of importance at its Wheeler Ridge wildcat, the C-2 Kern County Land-Wheeler Ridge, 29-11n-20w. At a total depth of 1,176 ft. the well has encountered approximately 150 ft. of what appears to be well-saturated oil sand. Liner has been run and production tests probably will be made within the next few days: This venture is west of Wheeler Ridge field proper and is approximately ½ mile from nearest producing wells.

Standard Oil Co. of California has just completed its second producer in Montalvo West field of Ventura County. The well, 62-4 McGrath, 30-2n-22w, has been turned into tanks flowing at the rate of 971 bbl. of 30.1°-gravity oil and 380,000 cu. ft. of gas daily. Total depth is 9,314 ft. and production is through perforations from 8,807-9,229 ft. This new producer is approximately 1,000 ft. northeast of the company's 2 McGrath, which was completed nearly a year ago for 160 bbl. daily from a plugged-back depth of 8,660 ft.

CALIFORNIA SUCCESSFUL WILDCATS

Fresno County, Raisin City area: Real Oil Co. 1 San Joaquin, 11-15s-17e, pumped 50 bbl. daily, perf. 5,218-22 ft., elev. 192 ft., TD 6,430 ft.

Kern County, Comanche Point area: Gene Reid Exploration Co. 10 El Tempo, 32-12n-18w, pumped 20 bbl. daily, gravity 13.0°, water cut 1.0 per cent, Santa Margarita 640 ft., 2½-in. tubing 656 ft., TD 670 ft.

Gene Reid Exploration Co. 9 El Tempo, 32-12n-18w, pumped 12 bbl. daily, gravity 13.0°, water cut 5 per cent, Santa Margarita 608 ft., TD 650 ft.

Tejon area: Richfield Oil Corp. 65-34 Tejon B, 34-11n-19w, flowed 103 bbl. 19.2°-gravity oil daily through 14/64-in. choke, top oil sand 2,528 ft., TD 2,730 ft.

Los Angeles County, Elsmere area: Nelson-Phillips Oil Co. 1 Kraft, 31-4n-15w, flowed 60 bbl. daily through casing, gravity 16°, water cut 5 per cent, perf. 580-714 ft., elev. 1,250 ft., TD 2,242 ft., PB 717 ft.

Sonoma County, Petaluma area: Trico Oil & Gas Co. 2 Petaluma Comm. 5, 30-5n-6w, pumped 32 bbl. daily, gravity 19.7°, water cut 0.1 per cent, TD 971 ft.

CALIFORNIA WILDCAT FAILURES

Kern County, Comanche Point area: Gene Reid Exploration Co. 11 El Tempo, 32-12n-18w, dry, elev. 834 ft., TD 660 ft.

Jasmine area: Quinn Ranch Oil Co. 1 Quinn, 15-25s-27e, dry in granite, elev. 669 ft., top granite 2,738 ft., TD 2,821 ft.

Shale Hills area: General Petroleum Corp. 11-15 Berry, 15-28s-20e, dry, elev. 811 ft., Devil Water sand 8,320 ft., Button Bed 10,190 ft., TD 10,607 ft.

Buena Vista area: Continental Oil Co. O-1 K. C. L., 9-31s-26e, dry, elev. 325 ft., TD 9,562 ft.

McKittrick area: The Texas Co. 87-29 Westpet NCT One, 29-30s-22e, dry, elev. 1,330 ft., TD 7,905 ft.

Bankline Oil Co. 3 McKittrick, 12-30s-21e, dry, elev. 1,050 ft.. TD 6,293 ft.

Mt. Poso area: Producers Oil Corp. of America 1 Gardner, 6-27s-29e, dry in granite, elev. 1,404 ft., top granite 771 ft., TD 801 ft.

Salt Creek area: Richfield Oil Corp. 1 Richardson, 18-29s-21e, dry, elev. 977 ft., Oceanic sand 7,595 ft., TD 7,676 ft.

San Emidgio area: Apex Petroleum Corp. 4 Los Lobos, 5-10n-22w, dry, elev. 1,711 ft., TD 2,520 ft.

Apex Petroleum Corp. 1 Los Lobos Core Hole, 5-10n-22w, dry, elev. 1,650 ft., TD 1,080 ft.

Sharktooth area: Barnsdall Oil Co. 4 E. P. M., 15-28s-28e, dry, elev. 971 ft., Vedder 2,670 ft., TD 2,692 ft.

Los Angeles County, Newhall area: Mutual Development Corp. 2 Sanborn, 6-3n-16w, dry, elev. 1,516 ft., TD 6,301 ft.

Rosecrans area: Federal Oil Co. 1 Barnes, 21-3s-13w, dry, elev. 83 ft., TD 6,018 ft.

Santa Barbara County, Point Conception area: Independent Exploration Co. 2 Sudden, 36-6n-36w, dry, elev. 60 ft., TD 2,507 ft.

Gato Ridge area: General Petroleum Corp. 1 Price, 18-8n-32w, dry, elev. 895 ft., TD 5,963 ft.

North Elwood area: Rice & Firestone 3 Elwood-Rice-Firestone, 14-4n-29w, dry, elev. 124 ft., TD 4,330 ft.

San Luis Obispo County, Huasna area: Danciger Oil & Refining Co. 1 Twitchell,

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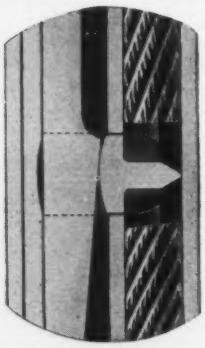

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35-32s-15e, dry, elev. unknown, TD 5,626 ft.

San Miguel area: E. B. Hall & Co. 25-7 fee, 7-25s-13e, dry, elev. 1,300 ft., TD 4,264 ft.

Ventura County, Sulphur Mountain area: L. M. Lockhart 2 Macrate, 27-4n-23w, dry, elev. 900 ft., TD 5,914 ft.

SOUTHWEST TEXAS

New Pool for Starr NW of Sun Pool

CORPUS CHRISTI.—A new oil field, West Sun, has been opened in Starr County by Humble Oil & Refining Co. 3 E. Block Heirs, in J. J. Sais Grant, Abstract 347, northwest of Sun field. Drilled to a total depth of 9,206 ft., this well flowed potential gage of 41 bbl. of oil per day through a 3/16-in. choke, through perforations at 8,833-48 ft. and 8,870-80 ft. Gravity was 52.5° and gas-oil ratio 9,200.

The Bishop field of Nueces County has been extended to the south by H. R. Smith and W. C. McBride, Inc., 2 H. F. Pierce. It flowed 126 bbl. of 41°-gravity oil per day through a 3/32-in. choke, no water in the flow, through the perforations at 7,120-29 ft. Total depth is 7,132 ft. with 5½-in. casing set to 7,132 ft. This well is in F. Z. Bishop Subd. of Weil Ranch. The No. 3 Pierce has been started 660 ft. south of the No. 2 well.

Rock Hill Oil Co. and W. Earl Rowe 2 Elmer D. Wood et al, opened a new oil pool in northern Nueces County, approximately 2 miles east of East Riverside field. On potential gage flowed 120 bbl. of 41°-gravity oil per day through a 7/64-in. choke, with gas-oil ratio of 197, tubing pressure 1,165 psi. and casing pressure 1,280 psi. Production is through perforations at 7,490-94 ft. Top of pay zone was logged at 7,482 ft. Total depth is 7,803 ft. and 5½-in. casing was set to 7,574 ft. for the completion.

There were 53 new locations reported this week for Districts 1 and 4, with 15 being wildcat starts, 5 in Duval, 2 in Williamson and 1 each in Bastrop, Cameron, Frio, Kenedy, Nueces, San Patricio, Starr and Webb counties. One successful wildcat opened new oil field in Starr County while 9 wildcats were dry, 3 in Duval, 2 in Zapata, and 1 each in Brooks, Caldwell, Webb, and Willacy counties.

SOUTHWEST TEXAS (DISTRICTS 1 & 4) SUCCESSFUL WILDCATS

Starr County: New oil discovery, West Sun —Humble Oil & Refg. Co. 3 E. Block Hrs., in J. J. Sais Grant, A-347, northwest of Sun field, top pay 8,833 ft., TD 9,206 ft., perf. 8,833-48 ft and 8,870-80 ft., IP: 41 bbl. oil per day through 13/64-in. choke, GOR 9,200, TP 500 psi., casing sealed, gravity 52.5°.

SOUTHWEST TEXAS (DISTRICTS 1 & 4) WILDCAT FAILURES

Brooks County: Sun Oil Co. 7 D. J. Sullivan, in El Tule Grant, 4½ mi. E of Falfurrias, dry, TD 9,612 ft.

Caldwell County: Shannon & Foster 1 H. H. Kelly, in John Tyler Sur., 6 mi. SW of Lockhart, dry, TD 1,723 ft.

Duval County: M. L. Massingill 1 Charles Houlihan, in J. Poitevent Sur. 32, 1½ mi. S of SW corner of Live Oak County, dry, TD 3,779 ft.

Joe C. Palmer 2 E. R. Hagist, BBB&C Sur. 1, 15 mi. N of Freer, dry, TD 2,711 ft.

Republic Natural Gas Co. & C. G. Glasscock 1 Saenz, in B. Guiterrez Sur. 5, 8 mi. NE of Benavides and 12 mi. S-SW of San Diego, dry, TD 6,520 ft.

Webb County: Humble 2 J. O. Walker, in Jacinto Juarez Sur. 136, 13¼ mi. N-NW of Aguilaris, dry, TD 5,232 ft.

Willacy County: Texas Co. 7 Yturria Land & Livestock Co., NCT-1, in Share 3, San Juan de Carricitos Grant, 8½ mi. NE from Raymondville, dry, TD 7,510 ft.

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See Composite Catalog Page 2426

Zapata County: Manforth Oil Co. 1 S. E. Garcia, in Pedernal Grant, 18 mi. NE of Falcon, and 7 mi. E of Lopeno field, dry, TD 1,711 ft.

F. P. Schwab et al 2 Pablo Trevino, in NE½ Charco Redondo Grant, dry, TD 1,920 ft.

OHIO, KENTUCKY

Ruggles Pool Gets Big Well

COLUMBUS. — The third completion in the new Ruggles pool came in with the largest open flow of the three. The well, Ohio Oil 1 Emery Nelson, Lot 23, Ruggles Township, Ashland County, a southeast extension, had Clinton sand at 2,484-92 ft., gaged 2,070,000 cu. ft. natural and 2,003,000 cu. ft. when shut in after shot. Two additional wells are to be started at once.

Willard Shrider completed a nice well on S. R. Deal, Section 9, Salt Creek Township, Muskingum County. Clinton was topped at 4,106 ft. and drilled to 4,130 ft. where the gage was 3,130,000 cu. ft. natural.

Lyons & Russell found a good showing of oil in the Newburg while drilling an offset well intended for the Clinton sand, on McFadden, Section 18, Jackson Township, Ashland County. The sand was reported at 2,592-2,610 ft., and the showing will be tested before shooting or acidizing.

The Sego pool in Madison Township, Perry County, continues as one of the three most active Pennsylvania Grade producing areas of the state. The Mid East 4 Rolland Beard made 590,000 cu. ft. with good oil showing natural and flowed 40 bbl. in 6 hours after shot. Mt. Perry Coal 1 Concord Coal Co., Section 28, reached the Clinton at 3,230 ft. and at 42 ft. in had 2,000 ft. of oil in the hole. Mid East 2 Francis Love, Section 22, made 140 bbl. in 24 hours after shot.

National Gas & Oil has drilled in its wildcat in the northeast corner of Penn Township, Morgan County, with a small show of gas in the Clinton, and a small show of oil in the Medina, and are undecided about shooting. The well, on J. C. O. Tompkins, Section 36, found the Clinton at 4,823-65 ft. and the Medina at 4,925-33 ft.

Twenty-seven locations were reported from 12 counties. Perry led with five and was followed by Monroe and Tuscarawas with four each. Cambridge field led in completions with 9 out of a total of 30.

WESTERN KENTUCKY

OWENSBORO.—Sun Oil Co. 2 Lilly Binford, 23-O-19, Union County, is cleaning out after a 30-qt. shot and showing for production of over 100 bbl. per day from the Waltersburg at 1,792-1,808 ft.

Sun's 3 Lilly Binford, also in 23-O-19, is waiting on cement after running casing to test the Waltersburg at 1,790-1,812 ft. The well also had a fair show of oil in a Pennsylvanian sand at 1,422-34 ft., the pay zone of 1 Lilly Binford. Sun has staked locations just south of the above wells.

In Henderson County, Carter Oil Co. 1 A. E. Melton, 14-O-23, swabbed 97 bbl. per day after a 40-qt. shot in Waltersburg at 1,745-66 ft. Total depth is 2,710 ft.

Miller & Shiarella and Ashland Oil & Refining Co. 1 W. Wright, 16-N-28, McLean County, made 9 bbl. per hour from the Cypress at 1,964-80 ft. for the first Cypress production and the third pay zone in the Guffie pool.

EASTERN KENTUCKY

ASHLAND.—The report covering activities in the Eastern Kentucky field of operations showed only one completion during the week. The Kentucky-West Virginia Power Co. listed Well No. 5,784, John H. Lowe, Pike County, completed for 133,000 cu. ft. of gas from shale, A.S., with total depth of 3,150 ft.

INDIANA

EVANSVILLE.—Posey County has new production in the area about 7 miles west of Evansville at B. M. Heath and Indiana Farm Bureau 1 Joseph Fischer, NW NE NW 22-6s-12w, where a 5-hour drill-stem test of the Cypress sand at 2,248-61 ft. recovered 275 ft. of oil and 60 ft. of oil-cut mud. Casing has been set at 2,253 ft. and total depth is 2,261 ft. Well is located a little less than 3 miles east of production in the Caborn pool.

In Gibson County and about 5 miles northwest of Princeton, George S. Engle 1 Oliver Baltzell Heirs, SW SW NW 31-1s-11w, will get casing to complete tests of the McClosky. A 2-hour drill-stem test at 2,303-11 ft. had gas in 15 minutes and recovered 500 ft. of oil, 125 ft. of mud-cut oil, 120 ft. of oil-cut water, and 750 ft. of salt water. A 75-minute test at 2,316-26 ft. recovered gas and sulfur water.

Ralph Halbert 1 T. A. Stunkel, SE SE SW 2-4s-10w, near the southern boundary of Gibson County, is testing after a show of oil in the McClosky at 2,116-25 ft. Well is located about 6 miles southwest of the Somerville pool.

In the Union-Bowman area of Pike County, Wabash Petroleum Corp. has a good McClosky producer at 3 Robling, NW NW SW 32-1n-9w. Well is on production test of pay at 1,644-47 ft. After a 500-gal. acid treatment, well swabbed and flowed about 350 bbl. per day and is now flowing 200 bbl. of oil and 40 bbl. of water per day through tubing. The only other McClosky production in the area is from the 1 Robling, now doing about 5 bbl. per day.

George S. Engle 1 George T. Johnston,

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SW NE SE 17-6s-11w, Vanderburgh County, swabbed 50 bbl. of oil and 150 bbl. of water in the first 12 hours after perforating casing opposite the O'Hara at 2,524-29 ft. A test of the McClosky at 2,604-08 ft. returned only water. The well is an eastern outpost of the Belknap pool.

LA.-ARK.

DeSoto Parish Test Waits on Cement

SHREVEPORT.—Kerr-McGee and E. E. Hurley 1 Frost Lumber Co., west of the Spider field in 14-11n-15w, DeSoto Parish, was waiting on cement after squeezing formations at 6,134-51 ft. A drill-stem test at that interval failed due to mechanical reasons. An earlier drill-stem test, from 6,093-6,114 ft., using ½-in. bottom choke and open top, would not flow. The section was treated with 2,000 gal., and swabbed acid water and some gas with a show of oil, then salt water with a show of oil. Total depth is 6,492 ft., in the top of the Travis Peak. Perforations tested were in the Pettit porosity.

In DeSoto Parish, The Texas Co. 1 F. J. Rambin, 23-11n-11w, last reported flowing considerable salt water with 1,000,000 cu. ft. of gas a day, retreated perforations at 4,972-96 ft. with 12,000 gal. On a 3/16-in. tubing choke, it flowed 245,000 cu. ft. of gas a day on a pressure of 390 psi. The amount of water it made, if any, was not specified.

Carter Oil Co. 1 Martin Matthews, Lincoln Parish test in 22-18n-4w, cored hard, tight sand with streaks of shale, and no shows, at 9,907-18 ft. Between 9,918-68 ft. core recovery was 50 ft. of hard, tight nonporous sand with a very slight show of gas. Total depth is 9,968 ft. in the Cotton Valley. Operators were running electrical survey.

In Natchitoches Parish, Continental Oil Co. 1 Pardee, 30-12n-6w, was drilling in Travis Peak at 10,918 ft. The California Co. was moving in materials to continue drilling or testing at its 2 Breece Lumber Co., wildcat test in 30-17n-5e, Ouachita Parish, which was shut down last December by rising waters of the nearby Bayou LaFourche. Total depth is 8,948 ft. in the Cotton Valley.

J. K. Wadley 1 W. C. Chennault, Travis Peak test in the old Richland field, 2-16n-6e, Richland Parish, was coring below 3,813 ft. in the lower Glen Rose. Spotted oil stains and fluorescence were reported at 3,802-13 ft.

NORTH LOUISIANA WILDCAT FAILURE

LaSalle Parish: Cox & Hamon 1 J. O. Thompson, SE SW SE 38-8n-3e, dry, TD 4,011 ft.

ARKANSAS WILDCAT FAILURES

Ashley County: Joseph P. Bell 1 J. J. Cone Estate, SW NW 23-16s-5w, dry, TD 4,756 ft.

Ouachita County: Hunt Oil Co. 1 Mollie Purifoy, SE SE 3-12s-19w, dry, TD 3,208 ft., Nacatoch 1,005 ft., Meakin 1,490 ft., Tokio 1,750 ft., Smackover 2,770 ft., elev. 289 ft.

APPALACHIAN FIELD

New Wildcat Test for Webster County

PITTSBURGH.—In Glade district, Webster County, West Virginia, Hope Natural Gas Co. has a location for a wildcat on West Virginia and Pittsburgh R. R. Co. tract on the waters of Cranberry River. On the Webster Springs Quad it is located

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0.25 mile south 38 degrees 20 minutes, and 2.00 miles west 80 degrees 25 minutes, with an elevation of 2,521 ft.

In Ravenswood district, Jackson County, near the town of Silverton, F. S. Deem is completing the test on Della Bowman in the Berea sand with the hole filling up 1,500 ft. with oil in 24 hours. This compares favorably with the last two completions which produced 50 bbl. a day, initial.

New locations totaled seven, one each in Lee district, Calhoun County; Union district, Clay County; Poca district, Kanawha County; Kermit district, Mingo County; Marsh Fork and Trap Hill districts, Raleigh County; and the Glade district, Webster County.

In East Fallowfield Township, Crawford County, northeast Pennsylvania, the wildcat No. 2 Ellen Calvin, drilled by the Sylvania Corp., was abandoned at 4,896 ft. below the White Medina, as dry and is being plugged.

New locations in southwest Pennsylvania totaled six, in Kiskiminitas, Madison and Manor townships, Armstrong County; Allen, North Strabane and Nottingham townships, Washington County.

PENNSYLVANIA SUCCESSFUL WILDCAT

Westmoreland County, Allegheny Township: Apollo Gas Co. 1 J. H. Burns, 622,000 cu. ft. gas, Speechley sand 2,740 ft., gas 2,741 ft., TD 2,748 ft.

PENNSYLVANIA WILDCAT FAILURE

Crawford County, East Fallowfield Township: Sylvania Corp. 2 Calvin, dry, TD 4,896 ft.

Westmoreland County, Hempfield Township: Peoples Natural Gas Co. 1 Perry D. Hite, dry, show of gas, TD 4,102 ft.

WEST VIRGINIA SUCCESSFUL WILDCAT

McDowell County, Brown Creek district: Godfrey L. Cabot, Inc., 1,261 Ford Motor Co., 231,000 cu. ft. gas, Big lime and Maxton sand, TD 3,600 ft.

WEST VIRGINIA WILDCAT FAILURES

Kanawha County, Elk district: United Fuel Gas Co. 6,282 J. E. Perry, 37,000 cu. ft. gas, plugged, elev. 960 ft., Corniferous lime 5,126 ft., Oriskany 5,266-5,311 ft., shot 5,269-5,311 ft., TD 5,340 ft.

ILLINOIS

Richland County Gets Good Cypress Opener

MATTOON.—Aetna Oil Co. and Arvin Drilling Co. have set casing on a well saturated Upper Cypress sand at 1 A. McDade, SE NW SW 17-4n-9e, near the northern part of the west border of Richland County. A drill-stem test for 1 hour at 2,665-81 ft. recovered 120 ft. of gas, 40 ft. of clean oil, and 130 ft. of oil-cut mud. The well is located about 1½ miles southeast of the Passport pool.

In Lawrence County, Young, Staninger, and Hayes Drilling Co. 1 Frick & Limp, SE SW NE 24-2n-13w, has 1,800 ft. of oil in the hole after a 30-qt. shot of the Benoist at 2,292-2,308 ft. Total depth is 2,529 ft., plugged back to 2,310 ft.

In the upper part of the state in Lee County, H. O. Carr 1 Vedovel, SW NE NE 35-20n-10e, will run casing on Mt. Simon sand. Current depth is 3,395 ft. This wildcat test is about 75 miles west of Chicago.

V. R. Gallagher 1 Hoerner, SW NE NW 28-3s-8e, White County, will go on pump to test the McClosky. After acid treatment, well swabbed 225 bbl. of oil and 20 bbl. of water per day from pay at 3,417-25 ft.

Also in White County, Buren MacGregor 1 Leathers, NE SE NE 12-4s-10e, is pump testing the McClosky after perforating casing opposite pay at 3,153-58 ft. Production averaged about 8½ bbl. per hour for the first 25 hours.

ILLINOIS SUCCESSFUL WILDCATS

Clay County: Diamond Oil & Exploration Co. 1 Toliver Woods, NE SW NW 15-4n-7e, IP 56 bbl., Cypress sand, 2,602-16 ft., TD 2,620 ft.

Edwards County: B. Lambert 1 M. Broster, SE NE SW 7-2s-10e, IP 12 bbl., Rosiclare, 3,321-33 ft., TD 3,391 ft.

White County: W. O. Allen 1 Hughes, SE SW NW 2-5s-9e, IP 25 bbl., Waltersburg, 2,570-80 ft., TD 2,611 ft.

ILLINOIS WILDCAT FAILURES

Shelby County: P. Doran 1 C. Hann, SE NE NE 10-11n-6e, dry, TD 2,286 ft.

Cumberland County: Hanlon & Boyle 1 J. Swingler, SE SE NW 16-9n-7e, dry, TD 2,530 ft.

Effingham County: Inland Oil Co. 1 B. Funneman, NW NW SE 3-8n-6e, dry, TD 2,417 ft.

Clay County: Reliable Oil Co. 1 Burt, NW NW SE 36-3n-6e, dry, TD 3,112 ft.

Lawrence County: Big Four Oil & Gas Co. and Hayes Drilling Co. 1 C. E. Harper, SE SW NW 12-3n-13w, dry, TD 2,177 ft.

Jefferson County: Pure Oil Co. 1 E. H. Dare, NE NW NW 10-3s-2e, dry, TD 2,829 ft.

ROCKY MOUNTAIN

Medicine Bow Test Still Coring Saturated Tensleep

DENVER.—Ohio Oil Co. is still coring and drilling in the Tensleep formation in the new pay discovery in Medicine Bow field. The well, 6 Wm. Kyle "A," NE SE NE 26-21n-79w, Carbon County, Wyoming, is now more than 227 ft. in the formation and still finding saturated sand. Top of the Tensleep was encountered at 6,666 ft. On drill-stem test at 6,821-34 ft. there was oil to the surface in 1¼ hours, the well flowed 24 bbl. of oil per hour for 2 hours, 14 bbl. per hour for 2 hours, and then 16 bbl. per hour for 2 hours. As much as 56 bbl. of oil per hour was recovered on test of portions of the sand. Several years ago Ohio drilled a well to granite ⅛ mile west of the new discovery and the previous test found water in the Tensleep. The well was approximately 300 ft. lower structurally on top of the Tensleep than the present test. Discovery of the 61°-gravity oil in the Tensleep on this structure has caused considerable geological and geophysical work in this area. Several operators, including Sinclair-Wyoming Oil Co., Union Oil Co., Ohio Oil Co., Stanolind Oil & Gas Co., and Superior Oil Co., now have acreage blocks in this basin and wildcat drilling is expected during the next year. Medicine Bow field has produced oil from the Sundance since discovery in 1935.

New hole is being made by Byrd-Frost, Inc., Western Natural Gas Co., and Paul B. English at the McElmo Dome wildcat in the San Juan basin of Colorado. The operators are now coring below 7,100 ft. with the old total depth of the hole at 7,054 ft. The well is 1 Schmidt, C SW NW 24-36n-18w, Montezuma County, and was drilled in 1944 by Stanolind. The present operators cleaned out the hole, and a fish left by the former operator, and have reported shows of gas and oil in the well. Some geologists believe that the Devonian was not reached at old total depth and that this horizon is the objective of the present operators. Byrd-Frost et al recently abandoned a wildcat test ½ mile south of the present well, with the abandoned test going to 4,965 ft., total depth, after encountering an igneous plug at 4,610 ft.

Location is being made by Stanolind for an interesting wildcat just across the state line in Grand County, Utah. The well will be 1 Crittenden, C SE SE 12-17s-25e, on the Bar-X (or Prairie Canyon) structure. Stanolind acquired a 7,200-acre block a year ago from Frontier Refining Co. of Denver and plans a Weber test on the structure. This is another of several important tests to be drilled in eastern Utah and western Colorado during the year, as a result of geological and geophysical work done in these areas during the past 2 years. At the present time Pure Oil Co. is drilling an interesting test on the northeastern side of the Salt Basin in the Gateway area at 1 Unit, NW SW SW 15-15s-104w, Mesa County, Colorado. This is the first of three wildcats proposed for this area, and the well is now reported drilling below 2,400 ft. in granite wash. Kerr-McGee Oil Industries, Inc., and Phillips Petroleum Co. plan to drill a wildcat well in the Garmesa area, 15 miles east of the Stanolind Bar-X wildcat. Farther southwest in Utah, Pacific Western Oil Co. and Equity Oil Co. of Salt Lake City have announced intentions to drill a wildcat in the Thompson area, 20s-22e, Grand County, and this test is considered of importance for future development in the northwestern section of the Salt Basin.

Water was recovered by General Petroleum Corp. in the Third Frontier at North Sand Creek, Washakie County, Wyoming. The well found top of the Frontier at 6,182 ft. and on drill-stem test 6,803-33 ft. the well made 3,100 ft. of water in 30 minutes. This test was in the Third Frontier sand, productive in Sand Creek field proper, 4 miles south. The operator is now drilling below 7,900 ft. in the Morrison, and the well is projected to test the Embar formation below 10,000 ft. In the Sand Creek area General Petroleum's first well to go below the Frontier is now drilling at 7,920 ft. with Third Frontier topped at 6.709 ft.

Pure Oil Co. is endeavoring to test its deep West Poison Spider wildcat at 1 Unit, C NW SE 11-33n-84w, Natrona County, Wyoming, at 14,303 ft., total depth. Several attempts have been made to test the well below the 7-in. casing set at 13,791 ft., but these have failed. Both electric and gamma-ray logs have been run of the well at present depth, but formation tops have not been announced by the operator. However, it is believed that the well is in the Frontier formation, and probably shows encountered to the present depth are in the Frontier sands. Cores below 14,211 ft. have shown saturated sand, but it is reported that permeabilities of the sand are low. The well is of importance as the deepest well to be drilled in the Rocky Mountains. Pure seismographed the area prior to drilling the test.

New operations.—Twenty new locations were made, with eight in Wyoming, four in Colorado, seven in Montana, and one in Northern New Mexico. The northern New Mexico wildcat well will be Lion Oil Co.'s Bonita test at 1 Hoxey-State, SE NW NE 30-20n-10w, on a block held by Lion for 2 years. The well will be Lion's first operation in the San Juan basin and will have as first objective the Dakota sand. In Wyoming, British American Oil Producing Co. and Morton Oil Co. are moving in rotary for another wildcat between Ant Hills and Mush Creek pool in an effort to find production in the shoreline area on the east side of the basin. The well will be 1 Government, SE NW NW 22-42n-62w, in the Beaver Creek area, Weston County, and will test Newcastle at around 3,800 ft.

WILDCAT SUCCESSES IN WYOMING

Wertz, Sweetwater County: Sinclair Wyoming Oil Co. 2 Wertz "D," SE SW NE 1-26n-90w, 7,193 TD, flowed 1,145 bbl. per day from Madison, OWDD OTD 6,528, Amsden 6,630, Darwin 6,678, Madison 7,150, elev. 7,010 ft. ground.

Silver Tip, Park County: Seaboard Oil Co. 64-33 Northern Pacific, SE SW NE 33-58n-100w, 5,992 TD, flowed 114 bbl. oil per day through 16/64-in. choke. Frontier 5.925 ft., elev. 4,501 ft.

WILDCAT FAILURE IN WYOMING

South Beaver Creek, Weston County: South Beaver Creek Syndicate 1 fee, SW NW SE 26-42n-62w, 5,626 ft. TD, band, Dakota 3,868, elev. 3,113 ground.

TRENDS

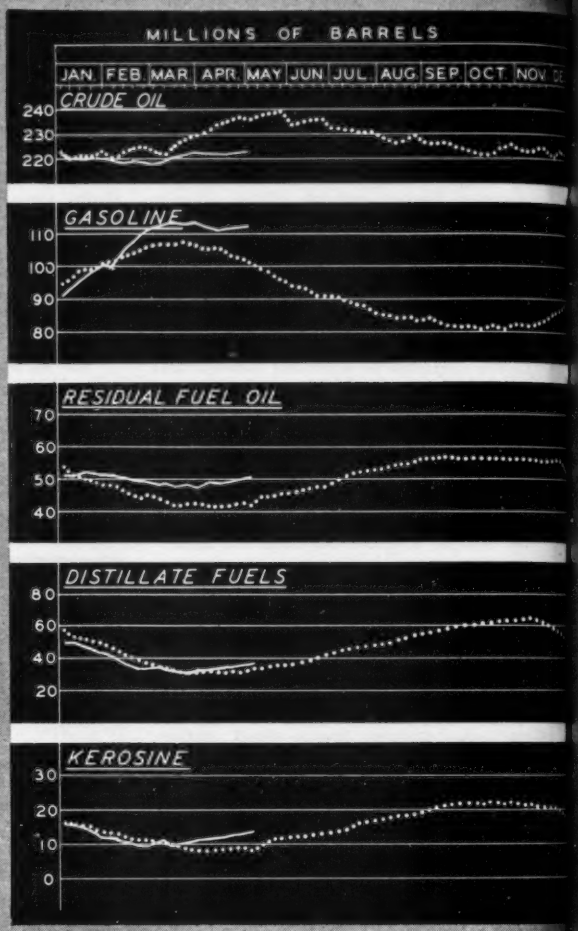
DAILY AVERAGE PRODUCTION FOR WEEK

	May 8 crude oil	B. of M. April demand	May 1 crude oil
Alabama	1,250	1.500	1,000
Arkansas	89.000	83,000	88.600
California	947,500	930.000	944,600
Colorado	43,980	48,000	44,650
Eastern	69,980	64,900	65,250
Florida	700	1.000	825
Illinois	173,000	178.000	169,900
Indiana	22,600	16,000	21,000
Kansas	294,700	304,000	296,400
Kentucky	24,100	26,000	24,800
Louisiana	483,275	475,000	482,750
North Louisiana	128,600	.....	128,350
South Louisiana	354,675	.....	354,400
Michigan	47,400	46,000	45,200
Mississippi	116,415	116,000	117,835
Montana	21,930	24,000	22,740
Nebraska	500	600	450
New Mexico	126,000	129,000	127,600
Oklahoma	417,900	415,000	417,300
Texas	2,419,325	2,450,000	2,419,000
Dist. 1 (Southwest)	26,850	.....	25,800
Dist. 2 (Southwest)	171,950	.....	172,350
Dist. 4 (Southwest)	255,650	.....	253,400
Dist. 3 (Gulf Coast)	492,850	.....	493,300
Dist. 5 (Eastern)	46,325	.....	46,125
Dist. 6 (Eastern)	121,900	.....	121,400
East Texas Field	308,000	.....	316,500
Dist. 7-C (West)	44,975	.....	44,400
Dist. 8 (West)	687,875	.....	679,325
Dist. 7-B (W. Central)	45,000	.....	44,550
Dist. 9 (N. Central)	138,450	.....	137,600
Dist. 10 (Panhandle)	84,500	.....	84,250
Wyoming	139,640	142,000	139,970
Total United States	*5,439,195	5,450,000	5,429,870
Change from prev. wk., up	9,325		

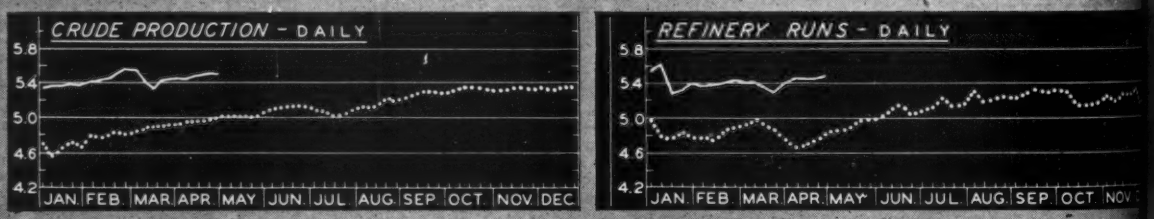
Total production January 1-May 8..... †699,761,195 bbl.
Same period last year (crude plus cond.).. 619,350,685 bbl.

*Not incl. 55,680 bbl. condensate. †Incl. 6,758,365 bbl. condensate.

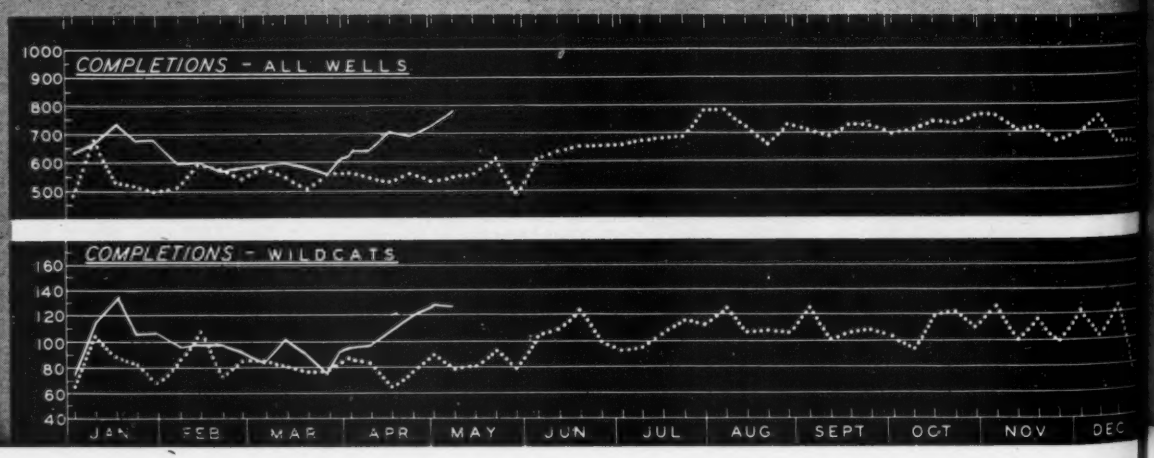
STOCKS IN UNITED STATES



DAILY OPERATIONS



WEEKLY COMPLETIONS



STATISTICS and

WEEKLY WELL COMPLETIONS . . . WEEK ENDED MAY 8, 1948

	Total of all wells					Cum.		Wildcat completions and discoveries					Cumulative total, 1948				
	Comp.	Oil	Gas	Dry	Footage	1948	1947	Oil	Dist.	Gas	Dry	Total	Oil	Dist.	Gas	Dry	Total
New York	35	17	0	*18	40,403	563	450	0	0	0	0	0	0	0	0	0	0
Pennsylvania	51	23	4	†24	118,412	985	1,074	0	0	1	2	3	0	0	7	13	20
West Virginia	15	3	9	3	45,114	257	278	0	0	1	1	2	2	0	19	25	46
Ohio	30	8	10	‡12	61,173	443	439	0	0	0	0	0	1	0	7	12	20
Indiana	22	12	1	9	36,029	324	195	0	0	0	0	0	4	0	1	9	14
Kentucky	11	6	1	4	16,308	215	186	0	0	0	0	0	2	0	0	6	8
Illinois	52	28	1	23	139,899	669	658	3	0	0	6	9	14	0	1	112	127
Michigan	12	6	0	6	21,710	218	210	1	0	0	5	6	7	0	6	90	103
Kansas	68	47	7	14	224,892	928	870	4	0	1	7	12	17	0	2	122	141
Neb., Mo., Iowa	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Oklahoma	91	42	8	41	286,412	1,331	1,409	3	1	0	19	23	45	5	9	217	276
Texas	253	162	4	87	992,197	3,812	2,970	7	0	0	39	46	107	10	38	669	824
North Central (Dist. 7-B & 9)	93	44	1	48	250,354	1,164	937	4	0	0	21	25	43	0	6	224	273
West (Dist. 7-C & 8)	76	63	1	12	324,466	1,024	696	1	0	0	2	3	16	0	1	71	88
Panhandle (Dist. 10)	14	12	1	§1	43,254	212	147	0	0	0	0	0	0	0	1	6	7
Eastern (Dist. 5 & 6)	8	6	0	2	32,480	190	178	0	0	0	1	1	4	1	0	47	52
Gulf Coast (Dist. 2 & 3)	28	19	1	8	174,586	595	558	1	0	0	6	7	27	8	8	150	193
Southwest (Dist. 1 & 4)	34	18	0	16	167,057	627	454	1	0	0	9	10	17	1	22	171	211
Louisiana	42	32	1	9	178,822	682	408	0	0	0	4	4	11	7	1	68	87
Northern	29	24	1	4	67,363	449	199	0	0	0	1	1	0	0	0	33	33
Southern	13	8	0	5	111,459	233	209	0	0	0	3	3	11	7	1	35	54
Arkansas	5	2	0	3	24,405	109	84	0	0	0	2	2	3	0	0	31	34
Mississippi	11	8	0	3	90,340	136	137	0	0	0	2	2	2	0	3	30	35
Southeastern States	1	0	0	1	12,220	15	15	0	0	0	1	1	0	0	0	13	13
Montana	7	4	1	2	15,483	84	60	0	0	0	0	0	1	0	0	7	8
Wyoming	9	8	0	1	43,102	136	75	2	0	0	1	3	9	0	0	16	25
Colorado-Utah	2	2	0	0	12,672	84	61	0	0	0	0	0	0	0	0	16	16
New Mexico	8	6	1	1	29,940	223	175	0	0	0	0	0	3	1	0	15	19
California	57	48	0	9	196,334	987	700	4	0	0	8	12	20	0	0	102	122
Total United States	782	464	48	270	2,585,867	12,201	10,456	24	1	3	97	125	248	23	94	1,573	1,938
Total previous week	737	433	40	264	2,704,445	11,419	9,908	18	3	8	100	129	224	22	91	1,476	1,813
Total May 10, 1947	548	315	57	176	1,973,803			13	2	5	59	79	223	27	58	1,272	1,580

Service wells included: *18, †22, ‡4, §1.

CRUDE PRICES AND REFINERY ACTIVITY

GRAVITY SCHEDULES

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

Gravity—	Signal Hill, Calif.	Okla-homa, Kansas	Gulf Coast Tex.*	West Tex.†
18-18.9	$2.17	....	....	....
19-19.9	2.19	....	....	....
20-20.9	2.21	$2.25	....	$2.12
21-21.9	2.23	2.27	....	2.14
22-22.9	2.27	2.29	....	2.16
23-23.9	2.30	2.31	....	2.18
24-24.9	2.34	2.33	$2.56	2.20
25-25.9	2.38	2.35	2.58	2.22
26-26.9	2.41	2.37	2.60	2.24
27-27.9	2.45	2.39	2.62	2.26
28-28.9	2.49	2.41	2.64	2.28
29-29.9	2.52	2.43	2.66	2.30
30-30.9	2.56	2.45	2.68	2.32
31-31.9	2.59	2.47	2.70	2.34
32-32.9	2.62	2.49	2.72	2.36
33-33.9	....	....	2.51	2.74	2.38
34-34.9	....	....	2.53	2.76	2.40
35-35.9	....	....	2.55	2.78	2.42
36-36.9	....	..	2.57	2.80	2.44
37-37.9	....	....	2.59	2.82	2.46
38-38.9	....	....	2.61	2.84	2.48
39-39.9	....	....	2.63	2.86	2.50
40 and above	....	....	2.65	2.88	2.52

*For crude from Daboval, El Campo, and Sand Point. †Includes Lea County, New Mexico.

A.P.I. REFINERY REPORT, WEEK ENDED MAY 1

(Thousands of barrels)

District—	Crude runs, daily avg.	Production: Gasoline†	Kerosine	Gas & dist. oil	Residual	Stocks at refineries, bulk terminals, in transit and in pipe lines: Gasoline*	Kerosine	Gas & dist. oil	Residual
Appalachian:									
East Coast	937	2,278	384	1,211	1,788	25,790	5,616	9,235	7,989
District 1	102	307	55	75	93	2,171	240	347	321
District 2	73	182	19	49	95	1,046	117	181	115
Ind., Ill., Ky.	839	2,915	373	913	1,154	21,456	2,138	4,300	3,340
Okla., Kans., Mo.	433	1,435	200	492	516	10,064	726	1,846	1,513
Inland Texas	258	972	96	200	429	3,821	542	378	975
Texas Gulf Coast	1,412	4,405	696	2,208	1,945	18,119	1,368	5,359	5,200
La. Gulf Coast	432	1,209	239	698	577	5,552	958	2,394	1,396
N. La. and Ark.	78	219	68	87	135	2,172	396	434	129
Rocky Mountain:									
New Mexico	13	43	5	12	27	100	25	22	31
Other Rocky Mtn.	148	464	24	177	303	3,186	131	696	830
California	845	2,252	77	810	2,281	18,155	1,137	10,032	28,990
May 1, 1948	5,570	16,681	2,236	6,932	9,343	111,632	13,394	35,224	50,829
April 24, 1948	5,517	16,515	2,452	6,831	8,877	111,128	12,481	34,237	49,572
May 3, 1947	4,803	14,526	1,952	5,285	7,784	101,674	9,604	30,132	42,539

*Finished and unfinished. †At refineries including natural blended.

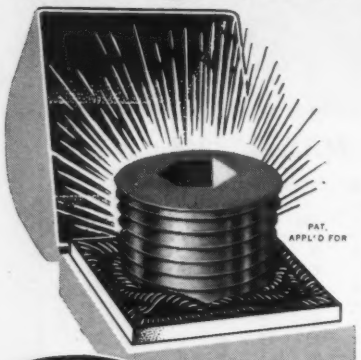
Bureau of Mines crude-oil stocks 223,159,000 bbl. as of May 1—up 1,507,000 bbl. One year ago 237,140,000 bbl.

FLAT CRUDE PRICES

Representative posted schedules per bbl.	
East Texas	$2.65
Kettleman Hills, California*	2.14
Beauregard Parish	2.60
Illinois Basin	2.77
Pecos County, Texas (Yates)	2.35
Bradford, Pennsylvania	5.00
Eastern Ill. and Western Ind.†	2.77
Tomball, Texas Gulf Coast	2.83

*37°-37.9°. †35° and above.

New and Exclusive



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MARKETS

MARKET sources in Houston last week described gasoline supply as increasingly tight. Prices, however, appeared to be largely unchanged at about 12¼ cents for housebrand in the open spot market. Major companies were reported to be buying in the open market, asking motor fuel at the lower publication prices but offering various additional inducements such as tank cars for movement.

Gulf Burning Oils Weak

Burning oils in the gulf area were weak. Trading was at prices only slightly above postings. No. 6 was said to be moving at about $2.90, cargo, and $2.65, tank car, with sulfur content no particular concern. These No. 6 prices reflected some upward change from the levels about a week previously.

Effective April 28, Esso Standard Oil Co. established a price of $2.46 per barrel for sales of Bunker C fuel in cargo lots, f.o.b. vessels at the United States gulf ports. According to officials these sales were being made only to the company's regular customers, but also would apply on any other spot sales which the company would make while the price remains in effect.

Gasoline demand in the Mid-Continent area became increasingly strong during the past week. Price levels remained unchanged for spot-market material but relatively few movements were reported despite the strong demand for gasoline. Several shipments were reported at 12½ cents per gallon for regular, and one marketer said that he was moving at less than 14 cents. No shipments at the latter price were confirmed.

With motor travel and agricultural needs continuing to rise, one marketer said that he expected the peak demand to be reached by the first of next month. Another source said that he expected only a few spot shortages during the harvest season when demand will be high, but that no locality would likely be confronted with a real shortage problem.

One source reported that No. 2 was moving at 9½ cents and up, and that there were considerable inquiries for this product. Major suppliers, he said, are making an effort to store this product, where possible.

One Mid-Continent supplier last week reduced the price of heavy fuel oil from $2.70 to $2.60 f.o.b., Longview, Tex.

No. 6 was described by one source as "sluggish." High-sulfur-content material was being moved at "around $2.50." One refiner reported that low-sulfur material on the open spot market was bringing a high of $2.75.

Kerosine open-market sales were not active with a few shipments being reported at 9½ cents per gallon.

New York Sales Down

Spot sales of products in the New York Harbor area were reported falling off last week. This was attributed to the fact that terminal operators, currently drawing on new allocations, were no longer forced to dip into the open market for additional supplies.

Price quotations at primary levels continued unchanged along the Atlantic seaboard.

A maximum advance of 2/10 cent per gallon on tank-wagon prices of gasolines, naphthas, refined oils, and fuel oils has been announced by Standard Oil Co. (Ind.) in its territory which is affected by the Interstate Commerce Commission freight-rate adjustment.

Representative Quotations

Representative spot-market quotations of leading suppliers as of May 10, 1948. Figures are f.o.b. plant for tank-car shipment in cents per gallon, except for residual fuel oil which shows the price per barrel and wax, in cents per pound.

GASOLINE, KEROSINE, AND FUEL OILS

	Mid-Continent Group 3	New York Harbor	Texas Gulf Coast
Regular gasoline, 73-75 octane	10½-12	11.6-12* 10.5-12.2†	10.9-12½
Premium gasoline, 78-80 octane	11½-13	10.6-13.4	12.9-13¼
42-44 w.w. kerosine	9½-10	10.2-12.2	10¼-10¾
No. 2 straw fuel oil	9- 9½	9.3-11.1	9.05-10
No. 6 residual	$2.50-2.65	$3.03-3.90	$2.56-2.80

*Branded (74-76 octane); †Unbranded (74-76 octane).

NATURAL GASOLINE

	Group 3	North Texas	N. La.
Grade 26-70	8½	8	8¼
Grade 18-55	10.2	9.6	9.9

LUBRICATING OILS

South Texas

200 vis., No. 2-3 neutral	13-14.5
750 vis., No. 3-4 neutral	15-17.25
2,000 No. 5-6 neutral	17-18½

LUBRICATING OILS

Mid-Continent

150-160 vis., D bright stock, 0-10 pp.	30-33
200 vis. No. 3 neutral, 0-10 pp.	20-21

Western Pennsylvania

145-155 vis. 10 p.t. bright stock	47
180 vis. p.t. neutral	45

CRUDE-SCALE WAX

Mid-Continent

130-132 A.S.T.M. melting point	7-7½

EQUIPMENT MEN ... in the News

Hurst Succeeds Black Of Tubbs Cordage Co.

R. P. HURST

Tubbs Cordage Co. announces that Clyde H. Black, representative in the Mid-Continent and Gulf oil fields, has gone into well-earned retirement.

Working out of Tulsa, Black has long been a familiar figure in the fields and an acknowledged authority on the usage of oil-well cordage.

Replacing Black in the Mid-Continent and Gulf fields is Robert P. Hurst, who will have his headquarters in Houston. Hurst will work closely with the Bethlehem Supply Co. organization, Tubbs distributors in this area.

Rohrbach Elected President Of Raybestos-Manhattan

John F. D. Rohrbach was elected president of Raybestos-Manhattan, Inc., at the last meeting of the board of directors, succeding Sumner Simpson, who has been president since the formation of the corporation in 1929, and becomes chairman of the board and of the finance committee.

The office of chairman of the board, which Simpson assumes, has been unoccupied since the death of Col. A. F. Townsend in 1940. Other officers elected at the same meeting were W. H. Dunn former comptroller, who was elected treasurer, and W. W. Kievit, formerly secretary, who was elected comptroller and secretary.

Two new members added to the board of directors were W. S. Simpson, director of personnel of the Raybestos division, and George W. Marshall, Jr., general manager of the asbestos products division.

Garmany Elected to Controllers Institute

Paul M. Garmany, assistant to controller of Hughes Tool Co., Houston, has been elected to membership in the Controllers Institute of America.

The top financial executives of 3,022 leading American companies in every branch of industry are members of the institute. It was founded in 1931.

New Officers in Cummins Engine

Directors of Cummins Engine Co., Inc., have named three new vice presidents and one new director for

C. R. FOX

D. J. CUMMINS

W. M. HARRISON

L. W. BECK

the ensuing year. The board action was announced after its organization meeting held at the corporation offices in Columbus, Ind., following the recent shareholders meeting.

The newly elected vice presidents are: L. W. Beck, sales; D. J. Cummins, engineering; and W. M. Harrison, who is also treasurer.

Carl R. Fox, who has been vice president and works manager for several years, is the newly elected director.

All other officers were reelected as follows: C. L. Cummins, chairman of the board; J. I. Miller, president; V. E. McMullen, executive vice president; R. E. Huthsteiner, vice president and general manager; Carl R. Fox, vice president and works manager; and E. G. Crouch, secretary.

The other directors were reelected and include Mrs. Nettie S. Miller, C. L. Cummins, H. L. Knudsen, V. E. McMullen, J. I. Miller, and R. E. Huthsteiner.

W. J. Manning was elected assistand secretary and assistant treasurer and promoted to the position of controller from his former position of assistant controller.

Murray Tool & Supply Moves to Tulsa

Murray Tool & Supply Co. announces the removal of its general sales offices to Tulsa. The new office is located at 212 Beacon Building. The factory of the company is in Pawhuska, Okla.

Oil Base Appointed Koebelite Distributor

Oil Base, Inc., Compton, Calif., has been appointed national distributors for Koebelite diamond bits, one of the newest developments for coring in hard areas.

With branch offices in Bakersfield, Long Beach, Ventura, Midland, Houston, Lindsay, Oklahoma City, and Vernal, Utah, Oil Base, Inc., plans to introduce Koebelite diamond bits through its sales and service engineers in these areas.

Power-Pak Appoints Evans Sales Manager

William W. (Bill) Evans has been appointed general sales manager of Power-Pak Products, Inc., Buffalo.

While no change in the company's sales policy is planned, the sales department under Evans has been expanded to accommodate the needs of an increasing number of jobber outlets. Sales contacts with national accounts and manufacturers' representatives, formerly made by field sales executives, will now be integrated under the sole direction and supervision of Evans.

Skeehan Appointed Unibolt Sales Manager

Thornhill-Craver Co., Houston, has announced the promotion of Jack Skeehan from sales representative to sales manager. A graduate of Notre Dame, Skeehan's first work was with Spang-Chalfant at its Ambridge, Pa., mill. He served that company as field representative in the Southwest and did sales and engineering work in California, later being transferred to Houston to work as pipe salesman for National Supply Co. During the war he was recalled to Pittsburgh by Spang-Chalfant to

serve as assistant supervisor of industrial relations, and returned to Houston for National in 1944, which position he resigned to go with Thornhill-Craver Co.

U. S. Rubber Names Weber and Basil

The wire and cable department of United States Rubber Co. announces the appointment of Howard H. Weber as chief engineer of the department and A. S. Basil general sales manager. Basil has been associated with the company since 1926 and Weber since 1934. Both men have had wide experience in electrical sales and engineering.

Other changes are as follows: H. J. MacDonald, assistant to the manager; H. F. Johnson, assistant general sales manager; R. A. Walker, merchandise manager; J. A. Leuver, assistant sales manager in charge of distribution; D. B. Karlskind, assistant sales manager in charge of commodities, sales enginering, and new projects; G. E. Hubrig, sales manager, western division; C. A. Barton, chief sales engineer; A. E. Aune, manager, automotive and aircraft wire sales, and R. C. Cassidy, manager, Uskon sales.

Martin Opens New Plant

John N. Martin, manufacturer, has just completed a modern new plant at 9 West Brady Street, Tulsa, which more than triples the floor space and production capacity. All equipment is of the latest type, giving maximum production efficiency.

Martin invented and began the manufacture of the Martin plunger and rings at Tulsa in 1937, and has expanded the line to fit the hundreds of makes and sizes of pumps and well conditions. A new product, the Martin cage, employing synthetic-rubber ball guides, is now in the process of manufacture, and will be announced in the near future.

John N. Martin is widely known in the oil industry. A graduate of Virginia Polytehnic Institute, he has been associated with the design, manufacture, and sale of oil field equipment since 1919, and has specialized in well pumps since 1933.

Peavy Heads Houdry Sales and Engineering

Dr. Claude C. Peavy, who for the past few years has been chief engineer for Houdry Process Corp., Philadelphia, has been elected vice president in charge of sales and engineering, David N. Hauseman, president has announced.

Dr. Peavy has had many years experience in all phases of petroleum refining and engineering, including catalytic cracking. He came to Houdry from Socony-Vacuum Oil Co., Inc.'s refinery engineering division where he was chief process engineer. Prior to his 5 years' service with Socony-Vacuum, he had been an engineer with the E. B. Badger & Sons Co. for 9 years. During his service with the Badger company he worked on the design of the first commercial Houdry fixed-bed units and also saw engineering service in foreign countries.

Trim Now U.O.P. London Representative

F. A. TRIM

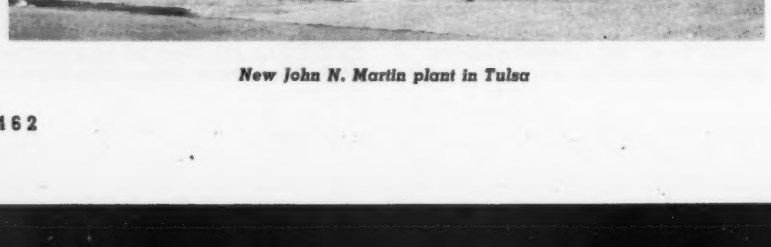
F. A. Trim has been made Universal Oil Products Co.'s representative in London, succeeding W. A. Keightley who has returned to Chicago as a member of the commercial development department. Trim joined Universal in 1934, and since that time has served as assistant to Dr. Victor Henny, former Universal representative, and later to Keightley.

Marine Exploration Co. In New Quarters

Marine Exploration Co. recently moved into a new exploration building at 3732 Westheimer Road, Houston, which will afford the firm much larger quarters and more extensive laboratory facilities, A. B. Hamil, president, announced.

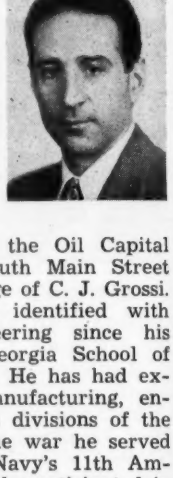
With this move into larger quarters, the company will increase its personnel, both in the administrative and technical branches.

Marine Exploration Co. has offices in Houston and New Orleans with field crews working throughout the oil country.



New John N. Martin plant in Tulsa

Combustion Engineering Opens Tulsa Office



Combustion Engineering Co., Inc., New York, announces the opening of a district office in Tulsa. The new office, established because of the growing industrial importance of the Oklahoma area will be located in the Oil Capital Building at 507 South Main Street and will be in charge of C. J. Grossi.

Grossi has been identified with Combustion Engineering since his graduation from Georgia School of Technology in 1935. He has had experience in the manufacturing, engineering, and sales divisions of the company. During the war he served 4 years with the Navy's 11th Amphibious Force which participated in the invasion of Normandy and thereafter occupied German ports. He was discharged with the rank of lieutenant commander.

Briggs to Head Firebrick Sales

Plibrico Jointless Firebrick Co., Chicago, announces the appointment of Victor Briggs as manager of Plibrico Sales & Service Co., 531 West Main Street, Oklahoma City. Briggs will act as distributor of Plibrico refractory products, maintaining a complete boiler-setting and installation service.

Selig Elected Chairman of the Board

Lester Selig was elected chairman of the board of General American Transportation Corp. at the annual meeting recently held at the New York offices of the company.

Max Epstein, who has been chairman, was elected chairman of the executive committee.

Other important action at the annual meeting was the election of John P. McFadden of Rockville Center, L. I., as a director and vice president of the company, to succeed Bennett Epstein, retired. McFadden has been with General American for 33 years. Howard C. Westfall, eastern manager for the tank, storage terminal division of the company, was elected assistant secretary.

Problems Caused by Regulation, A. G. A. Told

(Continued from page 204)

porters, distributors, and consumers of natural gas. . . ." he said. "In this controversy are disclosed the fundamental thinking and regulatory objectives of the individual commissioners. The direction and character of the future of the natural-gas industry largely depends on which of those views prevail."

Dougherty said Commissioners Olds and Draper talk in terms of a national fuel policy and urge that natural gas be retained in the producing states for future industrial expansion. "Thus the Natural Gas Act" is to be used as a tool in over-all national planning and the producers in Texas may be prevented from marketing gas to interstate pipe lines."

He called attention to the recent hearings by FPC on the application of Transcontinental Gas Pipe Line Co. to build a system from the Southwest to the Eastern Seaboard. The company, he continued, was unable to produce enough gas-purchase contracts to satisfy the commission that an adequate supply was firmly committed for a sufficient length of time. Substantially all the contracts contained an escape clause to avoid federal regulation of producers. "Apparently all the owners of the 165 trillion cubic feet of reserves have not been too anxious to tie themselves up for 20 years under present conditions," he remarked.

The 2-day annual meeting here was attended by approximately 600 persons. Besides the general sessions, meetings of the transmission, production and storage, and accounting committees were held. Some of the other discussions were reported last week (The Oil and Gas Journal, May 6, page 52).

Utilization of flare gas and its relation to gas reserves was discussed in another general-session talk by Paul Kayser, president of El Paso Natural Gas Co. which is now delivering approximately 225,000,000 cu. ft. of flare gas daily in its system out of a total of 350,000,000 cu. ft. daily. Only intelligent cooperation on the part of oil producers, gas-transmission companies, state regulatory agencies, and the FPC can solve the flare-gas problem and save from waste about a fourth of the national gas reserves.

Of considerable importance in marketing flare, or casinghead gas, Kayser said, is action of state commissions and FPC which will allow the company involved to take a depreciation rate that will amortize the field facilities necessary to market the gas over the short period of the life of the supply. Since gas sells lower than competing fuels, he said, the consuming public should not object to the small additional cost reflected by the added depreciation charges.

The significance of the tidelands decision last year by the Supreme Court and the background of the controversy was explained by Price Daniel, Texas attorney general. He predicted passage, a veto, and a possible vote to override, for the pending measure quitclaiming the submerged lands to the states.

The cause of the whole fight, Daniel said, are "the people who have filed application for cheap 25-cent federal leases on all the offshore land where there is a possibility of oil." The Texas attorney general said the Attorney General's Association fighting against federal control of the tidelands has the support of all but two states, one of them Missouri. "We can't get any cooperation in Missouri. . . ." he said. "The Kansas City oil co-op is pretty powerful in Missouri. They filed on 100 square miles of Texas and Louisiana offshore lands."

In another general-session talk, Hudson W. Reed, president of Philadelphia Gas Works and A.G.A. president, said the high cost of gas-making materials threatens to force the manufactured-gas business out of the industry picture. He called for an equitable plan to distribute natural gas, and gas for the "have-nots" to save the manufactured-gas branch from "creeping paralysis."

Mississippi Will Hold Geological Field Trip

The Mississippi Geological Society will hold its sixth field trip June 18-20, open to all geologists.

The trip will begin in Vicksburg, Miss., where outcrops in that vicinity will be studied and sampled. The first day's trip will continue eastward to Meridian, Miss., where papers will be presented and discussions held. The following 2 days will cover study of outcrops of sediments ranging in age from the Cockfield through the Catahoula formations.

Contacts for reservations at Vicksburg may be made through W. R. Asher, Vicksburg Hotel, and at Meridian through J. A. Wilson, Lamar Hotel.

CALENDAR OF EVENTS

May

International Petroleum Exposition, Tulsa, May 15-22.

American Petroleum Institute, Division of Production, Rocky Mountain district spring meeting, Townsend Hotel, Casper, Wyo., May 27-28.

Natural Gas and Petroleum Association of Canada, General Brock Hotel, Niagara Falls, Ontario, May 27-28.

Gas Technology Short Course, sponsored by the Southern Gas Association, Texas A. & I. College, Kingsville, May 31.

June

Petroleum Industry Electrical Association, Petroleum Electric Supply Association, and Petroleum Electric Power Association, joint conference, Hotel Adolphus, Dallas, June 1-3.

Southern Gas Association, third annual short course in gas technology, Texas College of Arts and Industries, Kingsville, Tex., June 2-4.

National Oil Scouts & Landmen's Association, annual convention, Denver, June 3-5.

Petroleum Equipment Suppliers' Association, annual meeting, Broadmoor Hotel, Colorado Springs, June 6-8.

Society of Automotive Engineers, summer meeting, French Lick Springs Hotel, French Lick, Ind., June 6-11.

Kentucky Oil and Gas Association, annual meeting, Hotel Lafayette and Phoenix Hotel, Lexington, Ky., June 17-18.

American Society of Testing Materials, fifty-first annual meeting, Book-Cadillac Hotel, Detroit, Mich., June 21-25.

American Petroleum Institute, Division of Production, eastern district meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., June 30, July 1-2.

Canadian Gas Association, annual convention, Jasper Park Lodge, Jasper, Alta., June 30-July 3.

September

The Instrument Society of America, third instrument conference and exhibit, Philadelphia Convention Hall, Philadelphia, September 13-17.

Pacific Coast Gas Association, annual convention, Hotel Casa del Rey, Santa Cruz, Calif., September 14-16.

October

American Institute of Mining & Metallurgical Engineers, petroeum division, fall meeting, Adolphus Hotel, Dallas, October 4-6.

American Association of Petroleum Geologists, midyear meeting, technical session and 3-day field trip, Pittsburgh, Pa., October 4-9.

American Gas Association, annual convention, technical section, Ambassador Hotel, Atlantic City, October 4-9.

National Lubricating Grease Institute, sixteenth annual convention, Edgewater Beach Hotel, Chicago, October 11-13.

American Association of Oilwell Drilling Contractors, eighth annual meeting, Rice Hotel, Houston, October 11-13.

Texas Mid-Continent Oil and Gas Association, twenty-ninth annual meeting, Fort Worth, October 14-15.

American Institute of Mining & Metallurgical Engineers, petroleum division, fall meeting, Elks' Club, Los Angeles, October 14-15.

November

American Petroleum Institute, annual meeting, Stevens Hotel, Chicago, November 8-11.

American oil Chemists' Society, fall meeting and technical sessions, Pennsylvania Hotel, New York, November 15-18.

March 1949

New England Gas Association, Hotel Statler, Boston, March 24-25.

NOMADS

Houston Nomads, second Monday of each month, The Houston Club, Houston.

Los Angeles Nomads, second Wednesday each month, Jonathan Club.

New York Nomads: Golf party, June 10, at Westchester Country Club. Golf party, Sept. 21, at Baltusrol Country Club, N. J.

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